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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JANUARY 1955
Volume 6 No. 1

ASHEVILLE: 1955

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NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA
NATIONAL SUMMARY

Volume 6 No. 1 JANUARY 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

The month was relatively mild from the north Pacific Coast eastward to the Great Lakes, and thence southward over the Great Plains, and in northern New England, and slightly colder than normal elsewhere. Temperature extremes were well within the limits of former records. Precipitation, above normal in much of the far Southwest, the extreme Southeast, and a belt extending from Wyoming to Illinois, was below normal elsewhere with outstanding deficiencies in the New England and Middle Atlantic States, the Virginias, Kentucky, Tennessee, and Arkansas. In the western Great Plains, a few sections received beneficial moisture, but generally there was little improvement in the drought situation. Over most of the South the increase of ground water and streamflow was about normal for January, but both were still low in most sections at the end of the month. The distribution of snowfall was extremely uneven ranging from little or none in the northwestern Great Plains to many times the normal amounts in some sections of the Southeast. Most snowstorms were not accompanied by drifting winds, and consequently caused little interference to transportations. In the far West the mountain snowpack, generally below normal, was beginning to cause apprehension in some sections regarding water supplies for the coming crop season. Snow covered the ground in most of the main Wheat Belt during a period of subzero temperatures late in the month, and was plentiful during most of the month in the winter sports areas of the Appalachians. Sunshine was abundant in the Northeast setting new records for January at a number of stations including Albany, N. Y., (62 percent of possible), Portland, Maine, (71 percent of possible), and New Haven, Conn., (73 percent of possible), and about normal elsewhere except in the far Northwest where it was considerably below normal. Thunderstorms were generally limited to scattered stations in the Gulf States and along the southern California coast; Galveston, Texas, reported 4, and Los Angeles, Calif., 3.

PRECIPITATION.--Precipitation averages for Virginia, New England, and all the Middle Atlantic States were the lowest on record for January. For Maryland the average of 0.55 inch was 17 percent of normal and for Delaware the average of 0.58 inch was 16 percent. Harrisburg, Pa., had a total of 0.70 inch, the least amount for January during a 110-year record. At Providence, R. I., January totals of less than 0.78 inch (this month's record for the station) were recorded only in 1839 and 1843. Owing to generous precipitation in preceding months no serious moisture shortages developed in these states despite the scanty amounts in January.

Near normal precipitation over the South maintained ample topsoil moisture and increased subsoil moisture although the latter at the end of the month was still below normal in many sections. Water supplies for some of the small towns in northern Florida remained very low; water in the key well at Tallahassee was at a record low level for the fifth consecutive month.

In the western portions of the Great Plains where drought has persisted with only short intervals of temporary relief for the past 3 years, January precipitation was again generally below normal. Less than 50 percent of the normal amounts fell in a belt extending from south-central and southeastern Montana southward through western and central Wyoming, eastern Colorado, extreme southwestern Kansas, the Panhandle areas of Oklahoma and Texas, and northeastern New Mexico; and some sections of this area received no precipitation at all. During the third and fourth weeks some soil erosion occurred in north-central Wyoming, eastern Montana, and eastern Colorado. West Texas received above-normal amounts of precipitation, many stations reporting over an inch, but much of this moisture was evaporated by drying winds during the last week.

In the far Southwest rainfall totals, which ranged from 1 to over 4 inches in southern California and from 1 to over 3 inches in most of Arizona, were very beneficial for crops and replenished moisture supplies.

TEMPERATURE.--East of the Rocky Mountains the first week of January was unusually warm, and average departures from normal exceeded 10° in the central Mississippi and lower Ohio Valleys and lower Appalachians. Virtually all stations in this area recorded their monthly maximum during this period. The maximum for Texas, 90°, was also the monthly maximum for the Nation. Following this first week the month became progressively colder, although temperatures remained above normal in the southern Great Plains and Great Lakes region until midmonth and in the northern Plains and northern New England until the last week. During this week a severe cold wave overspread the entire area east of the Rockies, bringing subzero minima southward to the central Great Plains, the Ohio Valley, and the lower Appalachians and freezing to the Gulf region and deep into Florida.

Damaging freezes occurred in Florida during the periods 12th-15th and 25th-31st. The first freeze severely damaged tender crops such as sweet corn and snap beans in the Everglades, and strawberries, peppers, tomatoes, and other tender vegetables in the Plant City-Wauchula area and caused minor losses in other areas. The latter freeze also was responsible for heavy losses of tender crops, particularly sweet corn, strawberries, and watermelons. Losses of corn, mostly in the Everglades, were estimated at 4,200 acres. The freeze on the 25th-31st also caused widely scattered mostly light crop damage throughout the Gulf coastal region and in the lower Rio Grande Valley.

In the northern Great Plains January was the third consecutive month of unusually mild temperatures. At Minneapolis, Minn., the temperature remained above zero until the 16th, the latest date on record.

In the far West above-normal temperatures persisted in the Canadian Border region during the last 3 weeks and in central and southern regions throughout the month. Highest temperatures in southern Idaho and northern portions of Utah and Nevada occurred on the 1st and in the remainder of the area during the last week. Lowest temperatures generally were recorded during the first week. The month's lowest temperature, -44° occurred at Taylor Park, Colo., on the 18th. Some frost damage was reported in the Los Angeles and San Diego areas of California and in southern Arizona during the last decade

SNOWFALL.--The most extensive heavy snowfall east of the Rockies occurred on the 9th and 10th in belts extending from west Texas to the Great Lakes and from southern Missouri and northern Arkansas to the Atlantic Coast. Depths during this storm ranged up to 2 inches in Texas, 7 in Oklahoma, and 10 in southern Missouri and Arkansas. Several inches fell in Kentucky accounting for the heaviest January fall there since 1948. Several inches also fell in Virginia.

Another storm deposited 15 inches at Abingdon, Va., and several inches in other parts of the State. The storms of the 9th-10th and 19th accounted for a record monthly total of 13.8 inches at Norfolk, Va., and a statewide average of over 300 percent of normal. North Carolina was in the southern portion of the storm of the 19th, and some sections of the State received as much as 10 inches which covered the ground for several days.

The most unusual snowfall of the month occurred in southwestern Alabama where Mobile and Bay Minette measured 3.5 inches on the 23d.

Light snowfall or flurries were frequent in extreme northern areas, with slowly increasing depths of up to 20 inches in the upper Mississippi Valley and upper Great Lakes, and over 40 inches in northern Maine by the end of the month. Snow on the ground east of the Rocky Mountains at the end of the month extended southward to a line running from southern Nebraska to the Appalachians, covering large areas that were bare at the beginning of the month.

DESTRUCTIVE STORMS.--The month was notable for the absence of severe storms. Only two storms caused damage of $10,000 or more, a tornado-like wind in Los Angeles, Calif., on the 18th which caused damage of $10,000, and a windstorm in Charleston County, S.C., on the same date which damaged aircraft utility lines, and poles to the extent of $11,500. Total damage for the month was only slightly over $30,000. Not a single death or injury attributed directly to storms was reported, although a few deaths and many injuries occurred in accidents caused by slippery roads.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1 JANUARY 1955

Section	Temperature								Precipitation					
			Monthly extremes								Monthly extremes			
	Average	Departure from normal	Station	Highest	Date	Station	Lowest	Date	Average	Departure from normal	Station	Greatest	Station	Least
	°F	°F		°F			°F		In	In		In.		In.
Alabama	44.8	-2.1	Headland	84	4	Russellville 2	8	29+	4.36	-0.65	Primrose Farm	6.88	Waterloo	1.78
Arizona	37.7	-2.8	Tumacacori NM	82	30	Maverick	-23	22	1.83	.84	Junipine	5.43	Kayenta	.21
Arkansas	41.5	.5	Ashdown	78	5	2 Stations	5	29	1.68	-2.69	Arkansas City	4.00	St. Francis	.52
California	40.6	-3.2	Yorba Linda	88	27	Soda Springs	-16	4	3.72	-.26	Sierra City	12.35	Cow Creek	.19
Colorado	22.4	-.9	Bonny Dam	69	17	Taylor Park	-44	18	.55	-.38	Wolf Creek Pass 4W	5.15	3 Stations	.00
Connecticut	25.4	-1.6	Stamford	52	2	Falls Village	-7	30	.78	-3.02	Middletown 4W	1.16	Putnam Lake	.44
Delaware	32.8	-2.3	Selbyville	65	6	Newark College Farm	6	28	.58	-2.95	Middletown 2S	.93	Wilmington City Hall	.33
Florida	58.0	-1.2	3 Stations	87	1+	2 Stations	18	14+	2.64	.04	Tallahassee WB AP	5.21	Royal Palm Ranger Sta.	.22
Georgia	46.4	-1.9	2 Stations	80	4+	Blairsville Exp. Sta.	9	31	4.44	.38	Talbotton	7.50	Savannah Beach 2N	2.24
Idaho	20.1	-3.4	2 Stations	52	24+	Chilly Barton Flat	-32	5	1.13	-.88	Pierce RS	3.74	Obsidian 4NNE	.24
Illinois	28.3	.6	Harrisburg	68	5	3 Stations	-18	27	1.80	-.53	Lawrenceville	3.72	2 Stations	.39
Indiana	28.0	.7	Evansville WB AP	67	5	Winimac	-18	27	2.08	-.92	Spencer	3.82	Kokomo Post Office	.54
Iowa	21.0	1.3	Missouri Valley	56	2	Atlantic 1NE	-26	27	.93	-.08	Donnellson 4N	3.52	Waukon	T
Kansas	32.0	1.7	Johnson 11ESE	71	4	2 Stations	-9	19+	.86	.20	Hiawatha	2.79	2 Stations	.04
Kentucky	34.4	-1.7	Hickman 1E	70	5	Somerset 1N	3	29	1.75	-2.80	Mount Sterling	3.18	Fords Ferry Dam 50	.30
Louisiana	50.5	-1.2	2 Stations	83	2+	4 Stations	15	29+	5.22	-.42	New Orleans Audubon	9.22	Rodessa	2.62
Maine	17.6	.4	Portland	42	2	Houlton CAA AP	-27	31	1.52	-1.82	Fort Fairfield	3.39	Gilead	.59
Maryland	32.6	-1.0	Solomons	66	6	Oakland 1SE	-26	28	.55	-2.76	Sines Deep Creek	2.56	2 Stations	.18
Massachusetts	25.9	-.7	Provincetown 3N	54	2	Stockbridge	-8	30	.85	-2.82	Pittsfield WB AP	1.22	Lawrence	.57
Michigan	21.3	1.2	Coldwater State Sch.	49	5	Kenton U S Forest	-27	30	1.41	-.39	Houghton CAA AP	4.91	Standish	.46
Minnesota	10.4	1.6	2 Stations	42	3	3 Stations	-36	27+	.54	-.21	Hibbing Pwr Substa	1.44	2 Stations	.12
Mississippi	45.6	-2.0	4 Stations	79	4+	2 Stations	11	29+	4.31	-.92	Buckatunna	7.47	Lake Cormorant	1.63
Missouri	33.0	2.2	Doniphan	76	4	2 Stations	17	27	1.21	-1.11	Memphis	E4.34	Pierce City	.21
Montana	20.3	1.8	Shelby	59	30	Wisdom	-37	5	.45	-.28	Kings Hill	3.05	3 Stations	.00
Nebraska	23.7	.4	2 Stations	63	2	Walthill	-21	27	.62	.08	Falls City	2.20	Butte	T
Nevada	24.4	-6.3	Las Vegas	67	31	2 Stations	-26	8+	1.00	-.06	Pioche	3.59	Lahontan Dam	T
New Hampshire	18.9	-.4	Keene	44	1	2 Stations	-21	29+	.92	-2.08	Cannon Mountain	3.29	South Weare 1SE	.51
New Jersey	29.6	-1.5	Millville CAA AP	59	2	Layton 3NW	-4	30	.72	-2.87	Paterson	2.05	2 Stations	.25
New Mexico	32.4	-1.3	6 Stations	73	30+	Gavilan	-38	22+	.63	.01	Elks Ranch	2.40	Ribera	.00
New York	20.1	-2.5	Hempstead Malverne	54	2	Old Forge	-38	28	1.15	-1.68	Pulaski	3.31	Schroon Lake	.14
North Carolina	39.8	-2.6	2 Stations	78	4+	Banner Elk	-4	31	2.63	-1.04	McKinney Gap	5.00	Danbury	.81
North Dakota	11.2	4.3	3 Stations	46	30	Pembina 2N	-33	27	.41	-.07	Kenmare	.99	Verona	.03
Ohio	28.1	-1.1	Barnesville Wtr. Wks.	65	2	Mansfield 6W	-14	28	1.69	-1.27	Kings Mills	2.83	Philo 3SW	.68
Oklahoma	40.1	2.1	Wilburton	77	3	Kenton	1	23	1.05	-.51	Anadarko	2.56	Texhoma	.00
Oregon	30.7	-1.0	Sitkum 6W	69	26	2 Stations	-18	3+	2.25	-1.63	Illahe 1N	11.72	00 Ranch	.13
Pennsylvania	26.4	-2.2	2 Stations	63	1+	Ridgeway 3W	-20	28+	1.03	-2.14	Custer City 2W	3.85	Artemas 1WNW	.13
Rhode Island	28.0	-1.7	2 Stations	49	2	Kingston	-3	30	.78	-3.18	Kingston	.83	Austin	.42
South Carolina	44.4	-1.9	Yemassee 4W	80	6	Chester 2SW	12	14	4.20	.76	Batesburg	5.99	Cleveland 2WNW	2.15
South Dakota	20.8	3.7	Murdo 1W	65	2	La Delle 7NE	-27	27	.22	-.33	Dumont 2ENE	2.22	Numerous	T
Tennessee	38.0	-1.4	Moscow	74	5	Centerville Sub Sta.	0	29	2.00	-3.09	Rocky River	3.13	Samburg W.L. Refuge	1.12
Texas	46.9	.0	La Pryor	90	2	2 Stations	4	22	1.55	-.05	Evadale	9.05	3 Stations	.00
Utah	20.0	-4.8	3 Stations	60	3+	Woodruff	-26	8+	1.48	.31	Alta	E11.83	Hite	.08
Vermont	14.2	-3.7	Bellows Falls	43	1	Lemington	-23	29+	.99	-1.77	Mount Mansfield	1.74	Essex Junction	.44
Virginia	34.7	-2.0	2 Stations	74	6+	2 Stations	-6	28+	1.19	-2.09	Jewell Ridge	3.34	Washington	.16
Washington	32.0	1.2	Packwood	60	30	Stockdill Ranch	-6	4+	2.44	-1.93	So. Olympic Tree Farm	10.51	Prosser 4NE	.31
West Virginia	30.4	2.7	2 Stations	67	6	Bayard	-24	28	1.94	-1.70	Lookout 2	5.87	Romney 3NNE	.14
Wisconsin	15.2	.9	4 Stations	45	1+	Danbury	-36	27	.60	-.64	Gurney	1.38	2 Stations	.03
Wyoming	19.2	.6	Torrington Exp. Sta.	66	2	Bondurant	-41	7	.54	-.30	Moose 3NW	2.68	2 Stations	.00
Puerto Rico	72.5	-.3	Juana Diaz Camp	93	27	Cayey (2)	49	17	1.97	-1.87	Toro Negro Resrv.	12.57	Guayabal Reser. (6)	.00

+ And also on a later date or dates.
E Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of new snowfall.

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

State and station		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
	Elevation (ground)	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
ALABAMA																																
Birmingham	610	994.4	1020.3	54	33	43.5	-1.7	74	5	19	29+	0	16	32	68	4.70	-0.28	1.26	11	0	T	0	8.6	N	41	E	18	7	10	14	6.3	44
Mobile	211	1012.2	1020.5	61	40	50.6	-2.1	74	4	28	14	0	9	43	79	3.35	-1.67	1.75	9	0	3.5	1	10.4	N	--	---	--	7	8	16	6.4	--
Montgomery	198	1012.9	1020.6	56	36	46.2	-3.0	76	5	23	14	0	13	39	78	4.63	.03	1.15	10	1	T	0	6.6	NW	34	W	10	8	7	16	6.4	48
ARIZONA																																
Flagstaff	6993	-----	------	36	8	22.2	-3.1	55	29	-15	22	0	31	--	--	2.67	.98	.89	12	0	44.3	25	----	---	--	---	--	13	4	14	5.5	--
Phoenix	1114	978.7	1018.6	59	38	48.7	-1.0	74	28	29	23	0	4	37	68	2.41	1.81	.71	8	0	.0	0	4.6	E	*21	NE	22	13	5	13	5.1	69
Prescott	5014	846.6	1019.0	44	21	32.6	-2.7	61	29	11	12	0	30	--	--	1.11	.01	.33	8	0	11.9	5	4.9	SSW	28	NW	22	10	7	14	5.7	63
Tucson	2558	927.5	1017.6	59	34	46.7	-3.0	77	29	25	22	0	16	29	58	1.89	1.26	.75	9	0	.0	0	6.4	S	29	SE	2	16	3	12	4.7	77
Winslow	4880	852.0	1019.6	44	20	31.8	-.9	59	30	7	23	0	30	16	58	.34	-.03	.15	7	0	1.7	1	7.3	SE	*32	W	31	13	7	11	5.0	--
Yuma	199	1013.2	1018.5	63	41	52.0	-3.3	75	28+	34	9+	0	0	32	53	1.29	.96	.56	8	0	.0	0	5.9	N	31	N	22	17	5	9	4.3	75
ARKANSAS																																
Fort Smith	458	1002.7	1020.1	51	31	41.0	1.0	72	3+	14	29	0	18	32	73	1.51	-1.38	.73	5	0	5.5	2	6.4	ENE	24	SW	31	9	6	16	6.0	50
Little Rock	257	1006.8	1020.3	52	33	42.5	.7	72	4	15	29	0	16	30	64	1.49	-3.63	.60	9	0	.5	T	9.2	S	33	NW	24	5	8	18	7.0	42
Texarkana	361	1006.4	------	54	36	45.0	-.9	72	4	19	29	0	12	--	--	2.38	-2.74	.82	10	0	.0	0	----	---	--	---	--	--	--	--	---	--
CALIFORNIA																																
Bakersfield	489	1003.1	1021.6	53	36	44.7	-2.2	71	30	26	8	0	5	39	81	1.51	.49	.70	8	0	.0	0	4.2	NW	*23	WNW	1+	5	6	20	7.5	--
Bishop	4108	876.1	1021.3	45	9	27.2	-10.7	58	27	-6	20	0	31	--	-	1.81	.69	.77	4	0	20.0	9	----	---	--	---	--	11	7	13	5.6	--
Blue Canyon	5280	837.5	1020.0	40	26	33.4	-2.8	61	26+	19	2+	0	23	--	--	7.89	-1.28	2.07	14	0	67.3	37	----	---	--	---	--	11	5	15	5.8	--
Burbank	699	992.6	1018.9	62	40	50.7	-1.9	78	28	33	4+	0	0	36	61	4.37	2.02	1.37	11	2	T	T	5.4	S	*35	NNW	16	10	9	12	5.5	--
Eureka CO	43	1018.6	1021.0	50	38	44.2	-3.0	58	26+	32	6+	0	2	--	--	5.73	-.47	2.02	17	2	T	T	6.6	---	54	S	17	8	3	20	6.9	52
Fresno	331	1008.8	1021.0	49	34	41.6	-3.1	59	23	26	8	0	14	38	89	3.51	1.94	1.13	9	0	.0	0	5.0	SE	27	SE	18	2	8	21	8.2	37
Los Angeles CO	312	-----	------	62	45	53.7	-1.3	79	28	40	20	0	0	38	60	4.30	1.92	1.15	9	3	.0	0	6.9	---	38	E	6	10	11	10	4.9	68
Los Angeles	99	1015.2	1019.0	61	43	52.0	-1.2	80	28	37	26	0	0	38	65	4.12	2.11	1.19	10	2	T	0	6.8	W	%42	NW	16	11	10	10	4.9	--
Mt. Shasta	3541	894.3	1021.7	40	22	31.0	-1.8	56	28	14	3+	0	29	--	--	3.29	-1.25	1.66	12	0	41.8	24	----	---	--	---	--	7	6	18	6.9	--
Oakland	3	1020.7	1021.1	52	37	44.2	-3.0	59	26	31	4+	0	5	38	81	4.14	.84	1.08	12	0	.0	0	4.9	SE	*32	NNE	6+	11	6	14	5.8	--
Red Bluff	341	1008.5	1021.3	52	34	42.7	-2.4	67	26	27	4+	0	11	33	73	2.96	-.77	1.15	11	0	3.3	3	8.6	NNW	41	SE	17	11	5	15	5.8	56
Sacramento	17	1020.0	1020.9	49	35	42.0	-2.3	59	1	28	8+	0	10	37	84	2.87	.21	.75	14	0	.0	0	8.7	SE	43	S	17	6	3	22	7.3	35
Sandberg	4517	862.9	1019.3	40	31	35.1	-4.7	52	25	23	7+	0	22	--	--	3.73	1.43	2.09	10	0	32.4	13	----	---	--	---	--	11	8	12	5.7	--
San Diego	19	1015.6	1018.8	62	46	53.9	-1.0	80	28	40	9+	0	0	41	65	3.59	1.90	1.31	15	0	.0	0	6.0	NE	39	SW	18	13	7	11	5.0	67
San Francisco CO	52	------	------	53	43	48.1	-2.0	63	22	39	14	0	0	--	--	4.05	.02	1.07	12	1	.0	0	6.6	---	28	E	30	13	8	10	5.0	66
San Francisco	1	1020.0	1020.6	52	38	44.9	-3.0	59	22	30	8	0	3	39	81	3.64	.17	1.07	13	0	T	0	7.3	WNW	37	SSE	17	11	7	13	5.6	--
Santa Maria	238	1010.8	1019.8	58	35	46.8	-3.6	70	26+	28	8	0	10	37	72	4.41	1.70	1.34	10	1	T	T	5.8	WNW	*26	W	1+	13	8	10	5.1	--
COLORADO																																
Alamosa	7538	768.7	1023.1	36	-1	17.7	.8	47	3	-18	23	0	31	--	--	.06	-.17	.04	3	0	.3	1	----	---	--	---	--	13	11	7	4.4	--
Colorado Springs	6173	806.6	1018.5	41	14	27.2	-1.6	54	2+	-1	10	0	31	11	56	.29	.07	.13	4	0	3.2	2	9.4	NNE	*35	NW	8	15	9	7	4.3	--
Denver	5292	834.7	1017.5	39	16	27.2	-1.5	55	13	5	9+	0	31	13	58	.23	-.27	.19	4	0	3.5	3	8.5	S	32	W	23	13	10	8	4.6	71
Grand Junction	4849	861.5	1023.7	32	16	23.9	-.1	46	4	3	22	0	31	17	75	.61	.01	.38	9	1	4.3	2	5.8	NW	29	W	4	10	7	14	5.8	51
Pueblo	4639	854.7	1017.7	45	15	29.8	.4	60	4+	1	22	0	31	15	59	.11	-.27	.10	2	0	1.2	1	6.6	E	30	W	11	11	11	9	4.9	68
CONNECTICUT																																
Bridgeport	7	1013.7	------	36	23	29.2	.0	49	2	10	28	0	29	--	--	.51	-2.92	.25	6	0	1.3	T	----	---	--	---	--	15	9	7	4.3	--
Hartford	169	1007.5	1013.6	34	19	26.1	-.9	44	4+	5	30	0	30	13	61	.91	-2.24	.43	5	0	1.2	1	11.6	NW	42	NW	7	11	10	10	5.0	59
New Haven	6	1009.2	1013.5	36	22	28.6	-.5	47	3+	9	30	0	29	--	--	.63	-3.26	.29	7	0	1.6	1	7.8	---	26	NW	20+	13	10	8	4.8	73
DELAWARE																																
Wilmington	73	1012.8	1016.1	39	24	31.5	-1.8	58	2	10	28	0	28	20	64	.59	-2.97	.23	8	0	3.8	2	9.3	NW	--	---	--	7	10	14	6.3	--
DIST. OF COLUMBIA																																
Washington CO	72	------	------	42	29	35.4	-1.1	62	2	12	28	0	23	--	--	.30	-3.11	.12	7	0	1.7	1	8.1	---	31	NW	6	--	--	--	---	--
Wash. Nat'l. AP	14	1013.0	1017.4	42	29	35.4	-.8	63	2	12	28	0	24	21	57	.31	-2.93	.11	8	0	2.3	1	10.7	NW	43	NW	27	7	9	15	6.5	45
FLORIDA																																
Apalachicola CO	13	------	------	61	46	53.3	-1.9	75	6	34	20	0	0	--	--	2.98	-.63	1.10	8	0	.0	0	8.2	---	31	N	23+	16	5	10	4.6	58
Daytona Beach	31	1017.7	1019.3	68	44	56.1	-3.4	80	2	27	30	0	3	48	79	2.47	.37	1.82	7	0	.0	0	9.8	NW	*38	W	18	13	8	10	4.9	--
Fort Myers	15	1018.7	------	73	50	61.1	-3.5	81	1	36	30+	0	0	--	--	2.68	1.16	2.25	5	0	.0	0	8.8	---	*30	N	24	19	7	5	3.5	--
Jacksonville CO	18	------	------	64	45	54.6	-2.7	78	10	31	14	0	1	--	--	3.05	.23	1.87	7	0	.0	0	----	---	--	---	--	--	--	--	---	--
Jacksonville	24	1018.6	1019.5	65	42	53.1	-2.8	80	10	28	31+	0	6	42	73	3.09	.41	1.57	7	0	.0	0	8.6	NW	33	W	19	12	9	10	5.0	55
Key West CO	9	1017.6	1018.2	74	62	68.2	-2.6	82	18	54	30	0	0	--	--	.95	-.59	.61	6	1	.0	0	8.3	---	30	N	24	20	9	2	2.9	86
Lakeland	214	------	------	70	50	59.9	-2.1	81	2+	33	25	0	0	--	--	2.33	.17	1.47	5	1	.0	0	6.5	---	--	---	--	15	12	4	4.0	59
Miami CO	8	------	------	73	57	65.0	-3.5	82	17	40	30	0	0	--	--	.55	-1.60	.20	4	0	.0	0	12.0	---	36	NW	19	22	6	3	2.9	84
Miami	8	1017.4	1018.4	75	55	64.9	-3.4	83	17	41	30	0	0	55	73	.71	-1.35	.33	4	1	.0	0	10.2	N	*35	SSW	24	21	6	4	3.3	--
Miami Beach	9	------	------	75	60	67.1	-2.9	83	17+	44	30	0	0	--	--	.80	-1.24	.24	7	0	.0	0	----	---	--	---	--	20	6	5	---	--
Orlando	106	1015.0	1019.6	70	47	58.4	-3.5	81	2	33	25+	0	0	49	75	2.00	-.05	1.43	6	0	.0	0	9.3	NNW	*35	WNW	19	12	14	5	4.2	--
Pensacola CO	13	1017.7	------	60	43	51.8	-2.2	75	6	30	14	0	2	--	--	4.45	-.10	1.63	8	0	.3	T	9.5	---	34	W	18	--	--	--	---	60
Tallahassee	64	1017.3	1019.8	63	39	51.2	-2.4	78	6+	25	25	0	9	42	76	5.21	1.36	1.92	7	2	T	T	5.8	NW	--	---	--	12	7	12	5.2	--
Tampa	19	1018.3	1019.8	69	49	58.9	-2.6	80	18	33	25+	0	0	50	78	2.59	.60	1.23	6	0	.0	0	8.5	N	*29	S	18	14	8	9	4.5	71
West Palm Beach	15	1017.2	1018.2	75	53	63.7	-3.3	85	17	39	30	0	0	54	77	1.34	-1.14	1.11	5	0	.0	0	11.7	NW	*48	WNW	24	12	14	5	4.4	--
GEORGIA																																
Atlanta	977	976.6	1019.5	52	35	43.6	-1.0	72	3	23	28	0	14	33	70	4.93	.26	1.74	8	0	T	0	10.5	NW	39	NW	13	12	2	17	5.9	49
Athens	798	990.7	------	53	34	43.3	-1.4	74	5	23	31+	0	18	--	--	5.32	.31	1.68	9	1	1.0	1	----	---	--	---	--	13	6	12	5.2	--
Augusta	143	978.4	1019.1	56	32	44.2	-4.5	79	5	19	31	0	18	36	75	4.28	.82	1.54	8	0	.5	.5	6.6	WNW	*30	WNW	25	12	4	15	5.6	--
Columbus	385	971.8	1020.3	56	34	45.2	-2.2	73	5	21	31	0	14	--	--	4.93	.35	2.98	9	1	T	T	----	---	--	---	--	10	5	16	6.0	--
Macon	356	1005.2	1019.1	57	36	46.9	-2.6	76	5	23	31	0	13	35	68	5.05	1.04	2.16	10	0	3.7	1	5.4	WNW	28	W	13	12	6	13	5.3	60
Rome	637	996.4	1020.3	51	30	40.9	-2.5	69	6	17	28	0	21	--	--	3.51	-2.04	1.14	9	0	.2	0	----	---	--	---	--	9	7	15	6.4	--
Savannah	48	1016.6	1019.3	60	36	47.8	-4.3	77	5	22	31	0	13	38	72	5.95	3.50	1.64	10	1	T	0	9.2	WNW	46	NW	13	12	8	11	5.2	62
IDAHO																																
Boise	2842	924.8	1024.8	31	16	23.5	-3.8	42	1	8	28	0	31	19	82	1.32	-.01	.36	10	0	14.6	6	6.6	SE	38	SE	18	2	8	21	7.9	29
Idaho Falls 46W CO	4933	850.0	1027.4	22	-5	8.4	-7.3	33	1+	-24	7	0	31	--	--	.47	-.19	.32	5	0	8.1	7	3.8	---	a25	SW	2	--	--	--	---	--
Idaho Falls 43NW CO	4780	------	------	19	-10	4.6	-7.7	31	16	-26	7+	0	31	--	--	.69	.16	.42	8	0	----	--	2.2	---	a28	S	2	--	--	--	---	--
Lewiston	1413	968.5	1021.6	38	25	31.5	.7	45	30	18	4+	0	30	--	--	.66	-.39	.18	12	0	3.6	2	----	---	--	---	--	1	7	23	8.7	--
Pocatello	4444	864.5	1024.8	26	8	17.0	-5.0	40	1	-15	7	0	31	13	79	.57	-.64	.15	10	0	9.6	5	8.9	SW	31	S	1	2	5	24	8.3	34
ILLINOIS																																
Cairo CO	314	1006.8	------	45	31	37.7	.3	67	5	10	27	0	18	--	--	.61	-3.87	.34	8	0	3.6	2	9.9	---	29	NW	13+	9	9	13	5.7	53
Chicago	610	994.2	1018.0	31	18	24.9	.0	48	5	-10	27	0	27	16	67	1.49	-.35	.73	9	0	6.5	4	12.5	W	34	NW	15	5	10	16	7.3	40
Moline	589	995.9	1019.4	30	14	22.0	-1.2	45	1+	-16	27	0	28	17	77	2.03	.53	1.31	13	0	11.2	6	10.1	W	40	W	14+	6	9	16	6.5	44
Peoria	654	995.6	1018.7	32	17	24.5	-.5	56	5	-14	27	0	28	19	77	2.56	.59	1.58	13	0	12.0	8	10.8	---	34	W	15	3	13	15	6.8	52
Springfield	587	995.3	1019.2	36	20	27.9	.5	59	4+	-6	27	0	27	22	76	2.32	.29	1.32	12	0	3.8	1	14.7	S	34	W	24	2	10	19	7.6	37
INDIANA																																
Evansville	383	1003.7	1020.0	42	24	33.2	-1.5	67	5	4	27+	0	27	26	76	1.03	-2.90	.33	9	0	5.5	5	9.9	SSW	38	S	24	5	5	21	7.5	35
Fort Wayne	801	985.4	1017.7	33	18	25.5	-.8	56	5	-9	29	0	26	20	79	1.97	-.57	.85	15	0	7.3	3	13.1	W	37	W	15	4	5	22	7.9	39
Indianapolis	793	989.2	1019.0	35	20	27.5	-1.3	61	5	-7	29	0	28	21	76	2.09	-1.06	.72	15	0	4.4	2	13.9	SW	41	NW	15	4	6	21	7.8	42
South Bend	768	987.8	1017.8	31	17	23.9	-.7	51	5	-10	29	0	28	19	79	2.20	.20	1.17	13	0	12.7	7	10.1	SW	*29	WNW	25	2	9	20	8.3	--

See footnotes at end of table.

CLIMATOLOGICAL DATA

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet, Hail		Wind		Fastest mile			No. of days (sunrise to sunset)				
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb.	°F.	°F.	°F.	°F.	°F		°F				°F	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
IOWA																																
Burlington	694	992.6	1019.4	32	15	23.8	0.2	46	1+	-15	27	0	28	17	76	3.08	1.34	2.04	13	0	10.7	7	10.7	W	38	NW	26	6	7	18	6.7	57
Des Moines	948	986.5	1019.5	30	14	21.6	-.5	49	3	-13	27	0	31	17	83	1.35	.12	.55	13	0	10.7	8	14.0	S	42	NW	14	9	5	17	6.6	39
Dubuque	1065	977.3	1018.0	26	12	19.0	-.4	40	3	16	27	0	29	14	75	.42	-.95	.19	10	0	3.5	4	----	-	--	---	-	5	11	15	6.7	-
Sioux City	1094	975.3	1018.5	32	12	22.2	3.1	54	2	-15	27	0	31	13	69	.40	-.34	.17	6	0	5.4	4	14.6	NW	52	N	27	7	8	16	6.5	53
KANSAS																																
Concordia CO	1375	967.2	------	39	21	30.0	1.9	59	3	6	27	0	30	--	67	1.24	.65	.74	6	1	6.0	4	8.1	---	27	NW	12	13	9	9	4.5	64
Dodge City	2594	927.5	1018.1	45	22	33.3	3.0	66	2+	6	19	0	28	23	70	.50	.01	.38	3	1	.8	1	15.4	NW	39	N	5+	11	12	8	3.2	70
Goodland	3645	886.6	1017.5	37	15	26.2	.4	57	4	-3	18	0	31	19	76	.82	.51	.49	3	0	7.6	4	10.4	NW	•28	NNW	14	10	9	12	5.7	--
Topeka	879	982.4	1019.7	41	21	31.1	2.4	60	3+	3	27	0	28	22	72	1.34	.27	.63	7	0	4.1	4	10.6	WNW	34	NW	28	12	5	14	5.6	52
Wichita	1321	968.5	1018.8	45	25	34.7	2.7	64	3	11	27	0	28	26	73	.61	-.44	.35	7	0	2.0	2	13.9	S	34	N	28	11	8	12	5.8	66
KENTUCKY																																
Lexington	978	982.3	1019.3	40	24	32.1	-.4	62	5	1	29	0	26	25	77	1.57	-2.93	.46	15	0	8.1	3	14.2	SSW	--	--	--	5	10	16	7.2	-
Louisville	485	1002.5	1019.3	41	26	33.6	-1.3	64	5	3	29	0	24	26	75	1.80	-2.30	.49	16	0	6.0	3	9.0	SW	35	SW	24	4	8	19	7.5	32
LOUISIANA																																
Baton Rouge	64	1017.3	1020.0	62	41	51.3	-1.1	77	5	28	20	0	8	43	76	4.64	-.85	2.76	11	0	T	0	8.4	N	--	---	--	7	9	15	6.5	-
Lake Charles	12	1019.0	1020.4	61	44	52.5	-.1	75	4	30	29	0	2	44	78	5.74	.92	2.55	8	1	0	0	8.3	N	•29	WNW	18	6	5	20	7.2	-
New Orleans CO	9	1018.3	------	63	46	54.4	-1.5	77	5	34	20	0	0		--	6.48	1.70	4.67	8	1	T	0	6.5	---	34	W	18	9	6	16	6.3	46
New Orleans	3	1018.3	1020.4	62	44	53.2	-1.7	78	5	30	30	0	2	46	78	7.13	2.45	4.77	9	1	T	0	9.9	NNE	•38	WSW	18	8	9	14	6.3	--
Shreveport	252	1010.8	1020.4	57	39	47.9	.1	75	4	20	29	0	8	39	74	3.44	1.28	1.67	10	1	.0	0	11.0	S	--	---	--	6	7	18	7.0	55
MAINE																																
Caribou	624	985.6	1010.1	18	4	11.3	2.6	35	7	-26	31	0	31	5	74	2.25	.01	.47	17	0	38.5	50	11.7	NW	•44	W	28	7	4	20	7.3	--
Portland	61	1006.9	1011.1	31	14	22.3	1.6	41	2	-1	29+	0	30	13	69	.76	-3.67	.34	8	0	4.7	2	10.9	NNW	42	W	27	12	7	12	5.3	71
MARYLAND																																
Baltimore CO	14	------	------	42	28	34.9	-1.7	63	2	14	28	0	22	--	--	.33	-3.33	.11	6	--	----	--	----	---	--	---	--	-	--	--	---	-
Baltimore	146	1012.3	1017.2	40	24	32.3	-1.9	61	2	6	28	0	27	20	63	.29	-3.37	.09	8	0	2.3	1	10.7	WNW	41	NW	2	8	13	10	5.8	54
Frederick	294	------	------	40	23	31.3	-1.4	60	2	3	28	0	27	--	--	.35	-2.53	.09	7	0	2.3	1	----	---	--	--	--	--	--	--	---	-
MASSACHUSETTS																																
Blue Hill Obs.	629	987.2	1011.4	32	18	24.6	-1.3	44	2	5	28	0	30	--	61	.89	-3.20	.49	7	0	1.1	T	17.0	NW	48	NW	7	12	8	11	4.8	62
Boston	15	1007.0	1011.9	35	22	28.5	-.6	45	1	10	28	0	30	13	53	.92	-2.58	.62	6	0	.9	T	16.1	NW	•54	NW	7	13	5	13	5.3	75
Nantucket	43	1010.4	1011.0	35	25	30.0	-2.1	48	2	15	28	0	29	22	72	1.21	-2.66	.55	6	0	3.0	1	14.8	NNW	41	SW	27	9	6	16	6.2	45
Pittsfield	1153	970.2	1014.2	27	12	19.3	-1.9	40	1	-5	30	0	31	--	--	1.22	-1.88	.63	9	--	5.1	3	----	---	--	---	--	--	--	--	---	--
MICHIGAN																																
Alpena CO	587	992.2	------	27	16	21.8	.6	40	3	2	27+	0	31	--	--	1.32	-.34	.30	16	0	17.6	12	10.3	---	40	SE	21	0	7	24	8.2	36
Detroit	619	989.2	1017.1	32	21	26.3	.1	45	3	4	27	0	30	19	74	1.69	-.39	.91	12	0	2.9	2	11.2	W	40	W	15	5	9	17	7.5	31
Detroit (Willow Run)	722	987.5	1016.9	32	19	25.3	.0	46	3	-3	29	0	30	19	76	1.78	-.02	1.00	8	0	3.0	2	11.5	WSW	•33	WNW	15	5	11	15	7.3	--
East Lansing CO	856	------	------	31	19	24.6	.8	46	3+	2	27	0	31	--	--	1.47	-.40	.95	10	0	5.2	2	6.3	---	18	SW	15	--	--	--	---	41
Escanaba CO	594	992.2	------	27	13	19.6	2.1	38	1+	-7	27	0	31	--	--	.98	-.55	.43	8	0	11.8	10	9.9	---	31	NW	9	7	7	17	6.8	43
Grand Rapids	681	990.2	1016.7	31	18	24.2	.7	43	3+	-9	30	0	30	19	81	1.70	-.20	.75	12	0	25.1	10	11.4	W	29	W	15	2	8	21	8.1	28
Marquette CO	677	987.1	------	26	16	20.8	2.1	37	1	-1	28	0	31	--	70	1.31	-.86	.25	21	0	18.1	12	8.7	- -	25	S	14	4	8	19	7.8	36
Muskegon	627	992.6	1016.7	30	19	24.9	.0	42	3+	2	28	0	30	18	73	2.07	.12	.65	16	0	30.3	14	----	---	--	---	--	1	8	22	8.5	-
Sault Ste. Marie	721	991.9	1015.7	24	10	16.7	2.9	36	1+	15	27	0	31	12	78	1.49	-.67	.32	19	0	16.8	14	9.1	E	•29	W	26	5	5	21	7.7	32
MINNESOTA																																
Duluth	1409	973.2	1016.7	19	1	9.9	1.6	34	1	-26	27	0	31	3	75	.95	-.28	.29	11	0	16.2	15	11.9	NW	36	W	14	9	8	14	6.2	38
Intern'l Falls	1179	971.6	1017.6	15	-9	2.8	-.2	29	4	-36	27	0	31	4	72	.93	.04	.29	14	0	15.2	15	8.3	---	-	---	--	8	10	13	6.0	-
Minneapolis	830	986.1	1018.6	21	7	14.1	-.5	37	14	-21	27	0	31	8	77	.47	-.33	.20	10	0	7.8	7	10.7	NW	38	NW	14	10	9	12	5.7	49
Rochester	1017	979.0	1018.2	22	7	14.7	.4	38	3	-23	27	0	31	10	79	.40	-.53	.18	9	0	4.6	3	9.8	W	-	--		9	7	15	6.1	--
St. Cloud	1034	977.7	1017.9	20	0	10.0	-.5	36	14	-26	27	0	31	4	76	.57	-.18	.27	7	0	6.6	5	7.6	WNW	--	-	--	9	9	13	5.8	--
MISSISSIPPI																																
Jackson	315	1008.1	1020.6	56	37	46.1	-2.2	73	5	20	29	0	12	37	73	3.91	-1.18	1.38	10	0	.0	0	8.1	N	30	NW	18	5	7	19	7.2	57
Meridian	294	1006.6	------	56	34	45.0	-2.5	71	5	18	14	0	15	--	--	3.40	-1.69	1.10	9	1	T	T	----	---	--	---	--	7	7	17	6.5	--
Vicksburg CO	234	1010.6	------	56	40	48.0	-1.2	73	5	24	29	0	7	--	-	5.09	-.35	2.07	10	1	.0	0	----	---	26	S	15	4	9	18	7.3	47
MISSOURI																																
Columbia	778	989.5	1018.9	40	23	31.7	1.9	61	4	-1	27	0	26	23	70	1.95	.15	1.42	8	0	[illegible]	3	10.9	S	40	NW	28	3	11	17	7.0	41
Kansas City	741	983.1	1019.4	41	24	32.5	2.5	62	4	2	27	0	26	23	70	2.19	.76	1.03	8	0	5.7	5	10.0	S	36	NW	12	10	7	14	[illegible]	46
St. Joseph	809	------	------	37	18	27.6	.5	56	2	-7	27	0	29	-	-	2.12	.97	1.45	9	0	5.2	4	----	--	--	--	--	-	--	--	---	-
St. Louis CO	465	998.0	------	42	26	34.0	.7	65	5	1	27	0	22	--	--	1.52	-.80	.64	10	0	2.3	1	12.2	---	35	NW	24	4	10	17	7.6	45
St. Louis	552	998.0	1019.2	41	25	33.0	.8	65	5	0	27	0	24	23	67	2.14	.22	1.08	9	0	1.4	1	10.4	NW	--	---	-	2	11	18	7.5	-
Springfield	1265	969.9	1019.1	42	25	34.2	1.5	64	4+	4	27	0	24	26	73	.47	-1.84	.26	4	0	5.7	3	13.2	S	50	NW	24	6	13	12	6.5	59
MONTANA																																
Billings	3568	889.6	1017.2	37	17	27.3	4.4	50	30	2	12	0	30	13	55	.07	-.46	.07	1	0	1.1	1	12.5	WSW	52	NW	23	6	6	19	7.2	53
Glasgow	2090	940.4	1018.9	24	1	12.6	1.9	39	13	-16	4	0	31	7	75	.52	.12	.25	8	0	10.5	6	7.5	WNW	-	---	-	3	10	18	7.6	--
Great Falls	3664	886.6	1017.2	34	18	25.9	3.2	50	30	2	2	0	30	16	66	.80	.25	.72	4	0	6.9	6	17.7	SW	57	SW	23	7	6	18	6.7	[illegible]
Havre	2488	925.5	1018.6	28	7	17.6	1.4	45	30	-17	12	0	31	--	--	.40	-.06	.28	4	0	6.6	3	7.7	---	29	SW	13	6	[illegible]	17	7.0	40
Helena	3893	872.7	1021.1	29	12	20.3	2.7	42	27	-13	5	0	29	13	72	.19	-.32	.16	2	0	3.4	3	7.1	W	38	W	23	4	7	[illegible]	7.4	46
Kalispell	2965	------	------	31	18	24.3	4.0	42	23+	1	22	0	31	-	-	1.03	-.29	.30	15	0	17.1	8	---	---	--	--	--	0	1	30	9.7	--
Miles City	2629	930.9	1018.2	34	10	21.7	5.6	52	30	-11	12	0	31	13	--	.17	.30	.06	7	0	2.7	1	8.2	NW	•39	NW	23	5	7	19	7.2	--
Missoula	3200	903.5	1022.5	30	15	22.3	2.9	45	27	-2	5	0	31	18	81	.61	-.20	.23	13	0	9.6	6	3.5	E	23	SE	18	1	3	27	9.2	20
NEBRASKA																																
Grand Island	1841	949.9	1018.6	34	14	23.5	.5	55	2	0	13	0	31	17	75	.87	.29	.40	5	0	9.2	4	12.0	S	-	--	-	11	9	11	5.5	-
Lincoln CO	1184	------	------	35	16	25.2	.2	58	2	-2	26	0	31	--	--	1.31	.49	.66	6	0	13.9	7	9.1	---	39	NW	24	10	11	10	5.4	59
Norfolk	1544	961.1	1019.2	34	12	22.9	3.6	57	2	-9	26	0	31	16	73	.41	.38	.14	6	0	4.3	4	----	---	-	---	--	9	[illegible]	13	6.0	--
North Omaha	1323	968.5	------	32	13	22.2	---	54	2	-10	26+	0	31	--	--	.61	--	.21	8	0	6.0	4	----	---	--	---	--	--	--	--	---	--
North Platte	2779	915.0	1018.3	32	9	20.3	-3.7	49	1	-10	23	0	31	16	79	.84	.45	.42	7	0	10.4	5	11.2	WNW	36	NW	24	10	7	14	5.8	58
Omaha	978	977.3	1019.2	34	15	24.7	1.7	54	2	-8	27	0	31	16	71	.75	-.10	.22	10	0	7.9	5	12.7	SSE	49	NW	28	9	9	13	6.1	47
Scottsbluff	3950	877.1	1019.3	33	7	19.9	-3.6	63	2	-10	7	0	31	12	72	.65	.32	.45	6	0	11.1	7	6.3	WNW	--	-	--	14	3	14	5.3	--
Valentine CO	2581	921.8	------	35	13	23.8	2.7	56	2	6	28	0	31	--	--	.24	-.32	.17	7	0	2.4	2	[illegible]	---	35	NW	14	6	11	12	6.0	69
NEVADA																																
Elko	5075	846.9	1025.5	26	0	13.1	-8.8	39	1+	-18	7	0	31	9	80	1.16	.09	.56	9	0	14.0	9	3.7	SW	•27	S	18	7	7	17	6.7	
Ely	6257	808.3	1023.7	30	-1	14.6	-8.4	45	28	-16	8+	0	31	8	73	1.00	.06	.42	12	0	16.3	12	13.4	--	56	S	1	13	5	13	[illegible]	61
Las Vegas	2162	952.6	1019.3	51	31	41.1	-3.1	63	31	26	9+	0	20	25	56	1.40	.96	.95	6	0	1.7	1	6.7	NNW	•32	NNW	26	16	5	[illegible]	[illegible]	77
Reno	4397	863.9	1022.9	37	13	24.8	6.4	47	1+	2	7	0	31	19	77	.64	-.40	.26	8	0	7.8	4	3.7	SSW	34	S	15	9	7	15	6.4	61
Winnemucca	4299	870.6	1024.8	33	2	17.8	-10.0	45	1+	15	4	0	31	14	79	.77	-.19	.34	9	0	12.9	8	[illegible]	-	30	W	1	[illegible]	10	13	6.0	58
NEW HAMPSHIRE																																
Concord	339	1000.7	1012.2	30	12	20.9	.8	39	3+	-4	30	0	31	10	65	.73	-2.18	.41	4	0	9	1	7.5	NW	32	NW	14	11	12	8	4.7	65
Mt. Washington	6262	790.1	1010.8	12	-3	4.7	-.7	32	6	-28	31	0	31	-	83	3.26	-1.84	.80	20	0	31.7	21	37.4	W	•208	W	16	7	6	18	6.7	46
NEW JERSEY																																
Atlantic City CO	8	1013.4	------	39	27	33.2	-2.6	56	2	13	28	0	26	-	-	.38	-3.40	.18	4	0	1.0	1	15.0	---	42	NW	14	8	11	12	5.7	60

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft	Mb	Mb.	°F	°F	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
NEW JERSEY (Cont'd.)																																
Newark	11	1014.0	1015.0	37	24	30.7	-0.8	53	2	12	28	0	28	16	56	0.81	-2.79	0.30	8	0	3.1	1	12.4	NW	*40	NW	7	12	9	10	5.2	--
Trenton CO	56	1007.6	1014.8	37	25	30.6	-2.0	53	2	11	28	0	28	--	--	.52	-2.64	.19	6	0	2.8	1	9.8	---	35	N	14	10	13	8	5.2	66
NEW MEXICO																																
Albuquerque	5310	848.6	1018.2	44	23	33.8	.1	54	30+	11	23	0	29	19	58	.29	.01	.25	4	0	3.0	2	7.5	N	40	W	31	14	7	10	4.8	71
Clayton	4969	843.2	1017.0	48	19	33.4	.5	62	30	5	22	0	28	--	--	.03	-.24	.02	2	0	.2	T	----	---	--	---	--	13	11	7	4.4	--
Roswell	3612	893.7	1017.8	52	25	38.8	-.8	71	31	17	24+	0	27	22	57	.29	-.13	.19	5	0	.8	1	8.3	---	43	NW	27	12	7	12	5.0	--
NEW YORK																																
Albany	277	1011.1	1014.8	28	14	21.2	-1.3	41	2	1	30+	0	31	12	68	.73	-1.54	.35	7	0	2.1	1	9.4	WNW	45	NW	7	11	12	8	5.3	62
Binghamton	1601	953.8	1014.6	26	13	19.6	-2.1	40	2	-1	28	0	31	13	77	1.23	-1.15	.37	20	0	15.5	3	14.4	WNW	43	NW	7	4	5	22	7.5	56
Buffalo	693	987.2	1016.5	30	19	24.8	-.7	50	1	3	28	0	31	18	76	2.61	-.17	.43	27	0	28.5	7	14.2	WSW	42	SW	15	1	7	23	8.1	47
New York CO	10	1002.6	------	36	25	30.5	-2.4	51	2	12	28	0	28	--	--	.81	-2.65	.31	8	0	2.9	1	15.4	---	61	NW	7	13	11	7	4.7	72
New York	19	1013.7	1014.9	37	26	31.4	-1.6	52	2	12	28	0	28	16	55	.85	-2.34	.39	8	0	2.4	1	16.1	WNW	56	W	7	11	12	8	4.9	--
Rochester	543	996.1	1016.1	29	18	23.5	-1.2	46	1	3	28	0	31	17	76	1.03	-1.33	.33	15	0	9.1	4	14.5	WSW	47	W	27	1	11	19	7.8	50
Schenectady	217	------	------	29	16	22.4	.9	42	1	4	28	0	30	--	--	.56	-1.86	.29	6	0	2.2	1	----	---	--	---	--	19	10	2	3.2	--
Syracuse	424	993.8	1016.9	28	14	21.2	-4.3	44	2	-7	28	0	30	14	73	1.61	-1.18	.30	18	0	20.0	9	8.7	NW	40	W	27	6	8	17	6.8	53
NORTH CAROLINA																																
Asheville CO	2203	------	------	46	28	36.8	-2.6	71	5	13	31	0	22	--	--	1.11	-1.87	.53	6	1	5.9	4	8.8	---	33	NW	13	7	12	12	6.0	52
Charlotte	753	989.8	1018.3	51	32	41.3	-1.0	73	4	18	14	0	21	31	70	2.38	-1.30	1.03	11	1	8.6	4	8.4	SW	44	N	13	8	9	14	6.3	55
Greensboro	891	985.8	1018.6	47	27	37.3	-1.7	70	6	13	31	0	22	26	67	1.84	-1.53	.72	9	0	10.9	6	6.9	SW	36	NW	13	6	9	16	6.5	66
Hatteras	4	1016.0	1016.8	49	38	43.9	-4.1	65	6	29	31+	0	4	35	73	3.64	-.46	1.27	9	1	T	0	13.5	NW	46	NW	11	10	6	15	5.9	42
Raleigh	438	1001.7	1017.9	48	30	38.9	-2.5	73	6	15	21	0	23	28	67	2.52	-1.01	1.05	10	0	14.4	7	6.8	SW	25	NW	13	8	9	14	6.2	63
Wilmington	30	1016.8	------	54	35	44.2	-3.6	76	6	23	31	0	15	--	--	3.34	.22	1.17	10	0	T	0	9.2	---	47	NW	13	12	6	13	5.6	60
Winston-Salem	967	982.0	1018.3	46	29	38.5	-.8	71	6	15	31	0	21	25	62	1.90	-1.79	.60	12	1	9.7	5	6.7	NNW	*25	NE	19	6	9	16	6.4	--
NORTH DAKOTA																																
Bismarck	1650	954.3	1017.9	26	4	15.0	5.8	38	30	-20	26	0	31	9	78	.42	.06	.14	11	0	5.8	4	10.7	NW	52	NW	14	4	8	19	7.5	58
Devils Lake CO	1471	961.4	------	17	-1	7.6	2.8	34	14	-21	28	0	31	--	--	.48	.08	.10	12	0	6.6	4	7.9	---	26	NW	14	7	9	15	6.7	49
Fargo	895	981.7	1018.4	19	0	9.5	2.4	35	14	-18	28	0	31	4	76	.18	-.42	.05	7	0	2.8	3	13.0	NNW	42	NW	14	4	8	19	7.3	41
Williston CO	1877	946.8	1017.8	24	4	14.0	4.0	35	13+	-21	26	0	31	9	76	.80	.31	.24	10	0	8.3	7	6.7	---	26	NW	14	3	4	24	8.2	33
OHIO																																
Akron	1210	978.7	1018.2	32	18	24.7	-2.7	56	5	-4	29	0	31	18	75	1.80	-.94	1.02	14	0	10.7	4	12.6	SW	--	---	--	4	8	19	7.5	--
Cincinnati Obs.	761	------	------	38	24	31.3	-1.8	61	5	-1	29	0	25	--	--	2.63	-.81	.94	19	0	11.2	5	----	---	23	SW	22	--	--	--	---	37
Cincinnati	869	985.8	1019.0	38	23	30.3	-1.5	61	5	-2	29	0	25	23	74	2.61	-.79	.76	20	0	10.3	6	11.0	SSW	26	NW	25+	2	6	23	8.2	--
Cleveland CO	663	------	------	34	23	28.3	-1.2	58	5	2	29	0	27	--	--	1.56	-.89	.90	12	0	----	--	----	---	--	---	--	--	--	--	---	--
Cleveland	787	988.9	1017.6	33	21	26.9	-1.6	58	5	-1	29	0	30	20	73	2.22	-.16	1.02	20	0	9.4	3	11.7	SW	35	SW	27	4	4	23	7.9	28
Columbus CO	724	------	------	36	24	30.2	-.9	59	6+	-1	29	0	24	--	--	1.17	-1.64	.35	14	0	6.2	2	----	---	--	---	--	--	--	--	---	--
Columbus	815	987.7	1018.8	36	21	28.5	-1.2	59	5	-7	28	0	26	22	77	1.44	-1.50	.50	15	0	7.1	2	10.3	SW	32	W	26	5	7	19	7.4	42
Dayton	1002	980.7	1018.6	35	21	28.1	-1.6	59	5	-8	29	0	26	22	78	1.59	-1.37	.69	14	0	5.9	3	10.1	WNW	36	W	25	3	7	21	7.9	46
Portsmouth CO	715	------	------	40	23	31.4	-1.7	64	5	-6	29	0	26	--	--	1.40	-2.06	.40	18	0	5.2	2	6.3	---	--	---	--	--	--	--	8.9	--
Sandusky	603	994.5	------	33	22	27.5	-1.3	56	5	-2	29	0	25	--	--	2.02	-.27	1.19	15	0	5.5	3	8.2	---	34	SW	27	5	8	18	7.4	37
Toledo	622	991.3	1017.9	33	19	25.6	-.8	55	5	-5	29	0	28	19	78	1.65	-.60	1.00	14	0	4.0	2	11.9	WSW	40	SW	15	5	5	21	7.6	34
Youngstown	1178	973.4	1017.8	32	17	24.5	-3.0	57	5	-3	29+	0	31	19	80	2.76	-.56	.94	21	0	15.9	6	11.3	SW	*32	WNW	27+	5	4	22	7.7	--
OKLAHOMA																																
Oklahoma City	1280	974.9	1019.7	48	29	38.7	1.6	68	4	17	27	0	25	30	74	1.03	-.47	.64	7	0	3.2	3	13.6	SSE	40	N	5+	9	5	17	6.3	49
Tulsa	672	994.2	1019.2	50	30	39.8	2.4	71	3	14	27	0	22	30	68	.77	-1.21	.42	4	0	3.0	2	12.0	SSW	30	SW	14+	10	4	17	6.3	59
OREGON																																
Astoria	12	1018.3	1019.6	47	35	41.0	.9	53	27+	27	19	0	8	38	88	5.96	-3.15	1.43	21	0	T	T	6.2	E	--	---	--	2	3	26	8.6	--
Burns CO	4140	875.0	1023.0	33	10	21.1	-2.8	48	23	-4	4	0	31	14	75	.59	-.88	.25	11	0	11.0	7	----	---	--	---	--	6	5	20	7.4	--
Eugene	361	1007.1	1021.3	44	34	39.0	.8	54	23	27	3	0	12	--	--	3.26	-2.15	.89	16	0	.2	T	----	---	--	---	--	2	4	25	8.8	--
Meacham	4050	------	------	31	21	26.1	1.2	42	27	10	9	0	31	--	--	2.66	-1.64	.61	14	0	26.4	29	----	---	--	---	--	0	6	25	9.1	--
Medford	1312	972.9	1021.9	44	28	36.0	-1.2	56	26	22	7+	0	28	31	86	1.31	-1.20	.36	11	0	2.6	T	2.4	SSE	*35	SSE	17	3	6	22	8.0	--
Pendleton	1492	966.1	1021.4	39	28	33.8	3.2	50	23	21	5	0	25	28	81	.83	-.65	.21	11	0	5.4	3	5.3	SE	--	---	--	0	5	26	9.1	--
Portland	22	1014.9	1020.7	45	35	39.7	2.3	52	23+	25	28	0	9	35	86	2.30	-2.29	.68	18	0	1.1	T	7.4	ESE	31	S	31	2	2	27	9.0	16
Roseburg	505	1002.0	1021.0	47	32	39.5	---	58	23	27	8	0	19	--	--	3.32	-1.28	.84	18	0	.1	T	3.6	---	33	SE	17	2	4	25	8.6	24
Salem	195	1013.2	1020.6	45	33	39.2	.8	55	22+	27	3+	0	14	36	88	2.63	-3.09	.64	16	0	.8	1	7.0	S	--	---	--	1	6	24	8.7	--
Sexton Summit CO	3836	------	------	37	28	32.7	-3.1	54	29	22	3+	0	25	--	--	3.03	-.99	.71	19	0	25.6	21	----	---	--	---	--	5	6	20	7.5	--
PENNSYLVANIA																																
Allentown	381	933.8	1016.2	35	20	27.1	-1.4	52	2	4	28	0	30	16	66	.71	-2.50	.25	7	0	3.6	2	11.8	NW	--	---	--	9	13	9	5.6	--
Harrisburg	335	934.8	1016.8	37	24	30.4	-.7	56	2	7	28	0	28	15	55	.70	-1.92	.21	10	0	5.9	2	10.0	WNW	36	NW	16	9	9	13	6.2	62
Philadelphia CO	26	------	------	39	28	33.5	-1.4	56	2	14	28	0	23	--	--	----	----	----	--	--	----	--	----	---	--	---	--	--	--	--	---	--
Philadelphia	13	1011.3	1015.8	39	26	32.6	-.6	57	2	11	28	0	27	16	53	.45	-2.92	.15	5	0	2.7	2	10.5	NNW	*46	NW	27	7	11	13	6.2	--
Pittsburgh CO	749	------	------	37	24	30.8	-2.2	60	6+	7	27	0	26	--	--	1.02	-1.81	.38	15	0	4.3	--	----	---	--	---	--	--	--	--	---	30
Pittsburgh	1151	986.4	1017.9	34	20	27.0	-2.0	59	6+	-3	28+	0	30	19	72	1.34	-1.43	.53	14	0	6.7	3	12.1	WSW	*28	SW	6+	6	5	20	7.3	32
Reading CO	266	1003.7	------	37	25	31.0	-1.2	56	2	11	28	0	29	--	--	.57	-2.58	.15	9	0	4.1	1	11.6	---	46	NW	7	9	12	10	5.8	62
Scranton CO	746	985.3	1015.9	31	19	25.3	-2.9	48	2	3	30	0	30	--	--	.57	-1.69	.27	9	0	2.4	1	7.1	---	30	NW	7	7	11	13	6.5	47
Williamsport	527	997.0	------	34	20	26.8	-1.7	51	2	2	29	0	30	--	--	.99	-1.60	.31	13	0	4.8	2	----	---	--	---	--	8	9	14	6.5	--
RHODE ISLAND																																
Block Island	110	1007.3	1011.9	36	25	30.4	-1.5	49	2	13	28	0	28	--	--	.73	-2.94	.43	4	0	.5	T	----	---	--	---	--	9	11	11	5.4	--
Providence	55	1005.9	1012.2	36	21	28.0	-.7	47	2	5	30	0	30	14	58	.78	-2.97	.39	5	0	1.1	1	10.7	NW	*38	SW	27	14	7	10	4.8	67
SOUTH CAROLINA																																
Charleston CO	9	------	------	58	42	49.5	-1.9	76	6	32	25+	0	2	--	--	4.49	2.01	1.39	8	1	.0	0	9.7	---	38	NE	18	14	4	13	5.3	64
Charleston	41	1017.0	1018.8	59	36	47.6	2.7	78	6	25	31+	0	12	37	72	3.29	.81	1.32	10	0	T	0	10.9	SW	--	---	--	11	7	13	5.5	--
Columbia	217	1009.5	1018.6	55	32	43.9	-3.1	77	5	21	14	0	19	35	76	4.90	1.76	2.15	11	1	1.7	1	6.3	WSW	*27	WNW	13	12	5	14	5.5	64
Florence	146	1012.5	------	55	35	44.9	-1.4	78	6	24	31	0	15	--	--	4.05	1.20	1.25	10	1	.3	T	----	---	--	---	--	11	7	13	5.7	--
Greenville	1018	979.6	1017.8	51	34	42.5	-.8	75	4	22	31+	0	16	29	64	2.74	-1.72	1.03	9	1	1.1	1	8.9	W	39	NW	13	10	7	14	5.7	61
Spartanburg	801	------	------	51	33	42.4	-1.0	74	4	21	31	0	17	--	--	2.70	-1.81	1.03	8	1	4.7	2	9.3	---	*35	NW	13	--	--	--	---	--
SOUTH DAKOTA																																
Huron	1282	968.8	1018.1	28	8	18.0	4.5	46	2	-16	26+	0	31	12	79	.22	-.35	.11	6	0	3.9	2	11.3	NW	57	NW	14	4	10	17	6.8	57
Rapid City	3165	899.1	1017.3	35	13	24.0	2.9	60	2	-3	12	0	31	14	68	.46	-.02	.18	6	0	4.1	2	10.8	NW	42	NW	23	7	8	16	6.5	45
Sioux Falls	1420	964.1	1018.1	29	9	19.1	4.9	48	2	-16	27	0	31	10	68	.32	-.40	.14	5	0	4.7	3	11.8	NW	*38	WNW	14	5	13	13	6.5	--
TENNESSEE																																
Bristol	1519	963.9	------	43	25	34.3	-4.3	66	6+	10	31	0	22	--	--	1.85	-1.65	.47	16	0	14.9	9	----	---	--	---	--	4	7	20	7.5	--
Chattanooga	670	991.8	1020.2	49	31	40.0	-1.6	69	5	15	29	0	21	30	70	2.72	-2.51	.77	8	1	T	T	5.6	SSW	26	SW	21	7	7	17	6.7	48
Knoxville	950	983.9	1019.8	47	31	38.8	-1.7	70	5	14	29	0	20	28	68	1.63	-2.91	.70	9	0	3.4	1	9.1	WSW	56	SW	13	4	10	17	7.4	45
Memphis CO	271	------	------	49	35	41.8	-.1	69	5	16	29	0	18	--	--	1.75	-3.63	.65	12	0	.2	T	----	---	--	---	--	12	5	1	---	--
Memphis	263	1005.5	1020.5	50	33	41.5	-.1	70	5	14	29	0	19	32	71	2.02	-3.53	.68	10	0	.3	T	10.9	S	33	S	31	7	7	17	6.7	55
Nashville	577	999.9	1020.4	47	29	37.9	-2.0	70	5	8	29	0	23	30	75	1.25	-3.68	.37	13	0	4.3	4	7.3	S	31	NW	12	5	9	17	7.0	48
Oak Ridge CO	905	985.8	------	46	28	37.2	-.9	69	5	13	29	0	21	--	--	2.44	-3.62	.72	10	0	2.7	1	5.3	SW	22	SW	6	4	9	18	7.3	--
TEXAS																																
Abilene	1759	956.3	1018.6	56	35	45.8	2.5	75	3	23	23	0	17	33	66	.83	-.05	.50	4	1	2.4	2	13.1	S	52	NW	17	11	5	15	5.8	58
Amarillo	3590	888.6	1017.2	50	25	37.7	2.4	68	4	13	22+	0	26	20	53	.53	-.11	.50	4	1	.2	T	13.6	S	47	W	31	11	8	12	5.2	67

See footnotes at end of table.

CLIMATOLOGICAL DATA

Table 2—Continued

JANUARY 1955

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p h.		M. p. h			0–3	4–7	8–10	0–10	%
TEXAS (Cont'd.)																																
Austin	615	998.0	1020.3	62	42	51.6	1.7	81	1	28	24+	0	5	40	68	1.87	-0.76	1.09	11	2	T	0	10.7	NNE	34	NW	18	11	2	18	6.2	48
Brownsville	16	1016.3	1018.6	72	54	62.9	2.4	83	1	36	24	0	0	55	76	1.15	-.40	.55	8	0	0.0	0	12.2	SE	42	NW	18	9	7	15	6.4	51
Corpus Christi	40	1018.3	1019.4	68	49	58.7	2.8	80	4	31	24	0	1	52	78	.91	-.48	.46	10	2	.0	0	13.5	SSE	40	NW	17	10	7	14	6.1	58
Dallas	487	1001.4	1020.5	56	38	46.7	1.0	74	4	25	23	0	12	37	71	1.35	-1.12	.88	8	1	T	0	8.7	SSE	40	NW	18	9	2	20	6.7	39
Del Rio	1091	984.4	1019.3	63	40	51.1	-.8	77	3	27	24	0	7	37	62	.48	-.35	.21	6	1	T	T	9.4	---	45	NW	9	12	5	14	5.7	53
El Paso	3920	887.2	1017.7	54	31	42.3	-1.1	69	31	20	10+	0	19	23	50	.59	.17	.39	4	0	T	T	11.8	NNE	54	W	31	14	3	14	5.3	73
Fort Worth	544	999.3	1020.7	55	37	46.3	1.0	74	4	25	23+	0	12	36	71	1.17	-1.25	.94	8	0	T	T	13.5	S	•37	NW	18	10	1	20	6.8	--
Galveston CO	7	------	------	61	49	55.2	.7	73	1	37	29	0	0	--	-	4.53	.44	1.92	10	--	.0	0	12.5	---	47	W	18	-	-	-	---	44
Galveston	5	1018.0	1020.3	61	49	54.8	.5	72	1+	36	24	0	0	48	76	4.75	.41	2.01	8	4	.0	0	12.7	SE	--	---	--	4	9	18	7.0	--
Houston CO	41	1014.9	------	62	47	54.5	.7	76	3	34	29	0	0	--	--	5.51	1.53	2.04	8	2	.0	0	9.8	---	32	NW	18	4	7	20	7.2	57
Houston	50	1017.3	1020.4	63	45	54.1	.8	78	1+	29	24	0	2	45	75	5.57	1.41	2.54	11	1	.0	0	13.1	SSE	--	---	--	5	5	21	7.3	--
Laredo	500	1003.4	1018.8	68	47	57.4	-.2	85	3	32	24	0	1	45	68	.73	-.29	.29	8	1	.0	0	8.1	SSE	•30	NW	18	10	6	15	5.8	--
Lubbock	3243	903.8	1017.8	51	28	39.7	.9	68	30	14	23	0	26	27	66	.83	.16	.40	6	1	2.5	2	13.8	SW	•53	W	20	14	4	13	5.3	-
Midland	2854	917.4	1017.9	55	31	42.9	-1.3	72	31	11	10	0	19	27	59	.68	.06	.33	5	0	5.9	6	8.9	WSW	•36	WSW	20	13	5	13	5.3	--
Port Arthur	16	1019.0	1020.5	62	45	53.3	.4	76	4	29	29	0	2	47	81	5.73	.61	2.19	11	3	.0	0	12.2	N	42	W	18	4	9	18	7.1	41
San Angelo	1903	950.6	1019.1	58	35	46.5	-.8	74	1	25	25	0	15	32	61	.62	-.37	.30	5	2	T	T	10.2	WSW	•44	NW	17	12	4	15	5.6	-
San Antonio	792	993.9	1019.5	64	42	53.1	2.5	80	3	28	24	0	3	38	60	1.45	-.36	.91	9	2	.0	0	9.0	NNE	42	NW	17	10	5	16	5.8	55
Victoria	110	1014.9	1019.7	65	47	55.8	.6	79	1	32	24	0	1	46	71	1.17	-1.55	.47	8	1	.0	0	9.3	---	•49	NW	18	11	5	15	5.9	--
Waco	500	1001.0	1020.1	58	39	48.6	1.3	77	3	25	29	0	6	39	72	1.58	-.80	.80	10	2	.0	0	13.1	S	--	---	--	8	2	21	6.7	-
Wichita Falls	1027	981.7	1019.3	53	34	43.5	2.9	73	4	24	23+	0	17	33	67	1.23	-.08	.42	5	1	4.0	4	9.1	S	•35	WNW	5	12	3	16	5.9	-
UTAH																																
Milford	5028	844.9	1023.7	33	6	19.4	-4.4	44	30	-11	17	0	31	--	--	.60	.03	.24	8	0	8.8	5	----	---	--	---	--	10	7	14	5.8	--
Salt Lake City	4220	869.6	1023.9	31	11	21.1	-5.4	47	1	0	28+	0	30	16	81	1.34	.14	.45	11	0	22.5	9	6.5	SSE	32	S	2	7	5	19	7.0	54
VERMONT																																
Burlington	331	999.3	1014.8	23	9	16.2	-1.7	40	2	-8	31+	0	31	9	71	.56	-1.33	.21	11	0	7.6	3	10.3	N	31	NW	27	8	6	17	6.9	50
VIRGINIA																																
Lynchburg	947	982.8	------	44	27	35.3	-2.4	66	6	10	28	0	24	--	--	1.33	-2.10	.45	9	0	10.1	4	8.2	---	28	SW	6	7	10	14	6.3	52
Norfolk	26	1016.3	1017.6	45	31	38.4	-3.1	68	6	21	28	0	20	27	66	2.41	-.76	1.19	7	0	13.8	5	10.7	NNE	32	NW	2	12	3	16	6.0	68
Richmond	162	1011.3	1017.8	46	26	35.8	-2.5	69	6	10	31+	0	26	25	67	1.09	-2.55	.81	6	0	9.3	8	7.5	WNW	24	NW	6	8	8	15	6.2	51
Roanoke	1174	974.5	1017.9	44	27	35.3	-2.6	66	6	11	31+	0	25	22	60	1.19	-2.20	.61	6	0	11.0	4	9.1	NW	--	---	--	6	10	15	6.9	--
WASHINGTON																																
Olympia	190	1011.9	1019.4	44	33	38.7	1.7	51	25+	26	3	0	16	35	88	3.01	-3.68	.54	19	0	.4	T	6.7	SSW	•31	WSW	13	1	5	25	9.1	--
Seattle CO	14	------	------	46	39	42.5	1.8	54	18	34	19	0	0	--	--	2.07	-2.42	.40	15	0	T	0	8.5	---	45	SW	13	1	2	28	9.3	21
Seattle	14	1018.6	1019.6	--	--	----	---	--	--	--	--	--	--	37	84	----	----	----	--	--	----	--	6.0	SSE	--	---	--	--	--	--	---	--
Seattle-Tacoma	379	1005.1	1019.6	44	35	39.1	1.9	50	18+	27	19	0	9	37	91	3.35	-1.38	.52	17	0	T	T	9.0	SW	--	---	--	1	3	27	9.2	--
Spokane	2357	950.2	1021.2	32	22	26.9	2.0	43	26	11	21	0	31	24	88	1.38	-.34	.29	17	0	15.6	7	5.7	NE	32	S	13	0	1	30	9.7	12
Stampede Pass CO	3958	878.4	1020.4	29	22	25.7	2.0	38	27	15	8	0	31	--	--	8.13	-4.92	1.72	22	0	63.3	79	----	---	--	---	--	1	3	27	9.2	--
Tatoosh CO	101	1014.6	1018.0	46	40	42.9	.9	51	31	36	4	0	0	39	85	6.44	-3.75	.98	25	0	T	0	15.9	E	66	W	13	2	2	27	9.0	23
Walla Walla CO	949	984.8	1021.7	39	29	34.3	2.3	50	23+	20	4	0	25	--	--	1.43	-.25	.34	14	0	7.4	2	4.8	---	33	S	18	0	4	27	9.1	11
Yakima	1061	981.7	1022.1	35	24	29.4	2.5	47	1	11	21	0	31	26	88	.58	-.38	.25	9	0	6.6	3	3.4	W	--	---	--	3	3	25	8.5	--
WEST VIRGINIA																																
Charleston	950	982.0	1018.7	41	25	32.9	-3.5	64	6+	2	31	0	26	24	71	2.05	-1.94	.61	17	0	8.4	3	9.5	SW	•35	WSW	25	2	7	22	8.0	--
Elkins	1970	------	------	36	17	26.3	-5.9	59	5	-12	28	0	29	20	--	1.76	-1.46	.25	22	0	13.1	5	7.8	WNW	•29	W	27	0	8	23	8.5	--
Huntington	565	------	------	43	26	34.3	-3.7	65	5	6	29	0	26	--	--	1.98	-1.63	.66	12	0	3.2	1	----	---	--	---	--	--	--	--	---	--
Parkersburg	615	------	------	40	24	32.0	-2.4	64	5	2	31	0	26	--	--	1.53	-1.64	.26	18	0	6.5	2	6.4	---	25	NW	27+	3	10	18	7.6	22
WISCONSIN																																
Green Bay	689	992.9	1016.8	25	7	15.7	-.4	40	3	-14	27	0	31	10	73	.78	-.51	.46	7	0	6.7	5	10.9	W	38	W	15	9	7	15	6.2	51
La Crosse	652	991.9	1018.0	25	9	17.2	1.5	42	3	-18	27	0	31	11	71	.30	-.92	.11	7	0	4.8	3	9.2	S	•29	W	14+	7	8	16	6.7	--
Madison	857	980.4	1017.6	27	11	18.9	-.2	41	3	-14	27	0	31	11	71	.65	-.66	.47	7	0	2.6	6	9.1	NW	39	W	15+	6	9	16	6.7	54
Milwaukee	675	991.5	1017.5	28	15	21.7	-.2	42	3	-9	27	0	30	14	72	.62	-.96	.43	9	0	2.8	8	12.4	WSW	36	W	15	6	7	18	6.7	55
WYOMING																																
Casper	5322	833.4	1016.7	32	13	22.3	.0	48	2	-6	9	0	31	12	62	.59	-.10	.25	6	0	13.2	6	17.2	SSW	--	---	--	12	5	14	5.8	--
Cheyenne	6131	807.0	1017.1	36	14	24.9	-.6	52	2	0	6	0	31	12	59	.29	-.27	.22	5	0	7.1	6	13.5	WNW	49	NW	21+	10	9	12	5.4	61
Lander	5563	832.4	1018.7	36	10	22.9	6.1	48	13	-2	18	0	31	8	57	.05	-.45	.05	1	0	.7	1	5.8	---	54	NW	23	11	13	7	4.9	74
Sheridan	3942	882.2	1018.5	36	13	24.4	4.3	49	23	0	7	0	31	--	--	.89	.14	.55	6	0	8.4	3	8.7	WNW	66	NW	23	3	15	13	6.7	49
PACIFIC AREA																																
Canton Island	9	1009.5	1009.8	85	78	81.3	-1.7	89	16	73	18	0	0	73	78	6.47	5.39	4.33	6	0	.0	0	----	---	--	---	--	4	8	19	7.4	--
Hilo	31	1016.9	1018.2	77	62	69.3	-1.1	82	20	59	30	0	0	62	81	12.17	-1.96	3.70	24	0	.0	0	7.5	SW	•24	NNE	21	3	9	19	7.5	41
Honolulu	7	1018.0	1017.7	79	67	72.5	.3	83	6	61	12	0	0	61	70	2.74	-1.91	2.66	5	0	.0	0	9.6	ENE	51	NE	21	9	15	7	5.2	67
Koror CO	94	1007.1	1011.0	86	74	79.8	-.4	88	5+	70	5	0	0	75	86	19.39	7.36	11.57	26	2	.0	0	----	---	--	---	--	0	6	25	8.7	--
Lihue	115	1013.2	1018.4	78	66	71.7	1.6	81	5+	60	26+	0	0	62	75	4.27	-1.96	2.72	19	0	.0	0	12.4	ENE	32	NE	21	2	15	14	7.0	35
Ponape CO	112	1005.4	1010.9	86	76	80.6	-.6	88	9+	69	20	0	0	74	79	13.03	1.29	3.46	19	3	.0	0	----	---	--	---	--	0	5	26	8.9	--
Truk (Moen Island)	8	1010.8	1011.2	85	78	81.5	.6	86	6+	74	12	0	0	76	82	8.92	1.33	2.22	23	3	.0	0	----	---	--	---	--	0	2	29	9.5	--
Wake Island	11	1016.6	1017.0	81	74	77.3	-.2	83	4+	68	9+	0	0	69	75	1.26	.00	.31	13	0	.0	0	17.3	ENE	--	---	--	11	13	7	5.1	--
Yap CO	53	1009.5	1011.4	84	75	79.7	-1.1	88	11	71	19	0	0	75	85	23.08	16.25	8.83	26	2	.0	0	----	---	--	---	--	0	2	29	9.4	--

Data from airport unless otherwise specified. CO indicates data from city office.
• Data entered in column "Fastest Mile" is fastest mile observed. This station is not equipped with automatic recording wind instrument.
+ And also on a later date or dates.
% Peak gust.
a Maximum hourly average.

Table 3

HEATING DEGREE DAYS

(Base 65°F.)

JANUARY 1955

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	659	1887	1753
Mobile	442	1200	1039
Montgomery	573	1599	1381
ARIZONA			
Flagstaff	1322	4008	4198
Phoenix (CO)	487	844	980
Phoenix	500	889	1119
Prescott	996	2469	2641
Tucson	560	1028	1123
Winslow	1023	2727	2904
Yuma	398	676	682
ARKANSAS			
Ft. Smith	739	1971	2048
Little Rock	690	1829	1898
Texarkana	613	1564	1513
CALIFORNIA			
Bakersfield	625	1550	1380
Bishop	1164	2800	2515
Blue Canyon	971	2958	2899
Burbank	433	901	976
Eureka (CO)	638	2574	2585
Fresno	716	1820	1640
Los Angeles (CO)	345	669	779
Los Angeles	397	813	1075
Mt. Shasta (CO)	1050	3500	3324
Oakland	638	1789	1790
Red Bluff	684	1799	1559
Sacramento (CO)	680	1783	1594
Sacramento	707	1888	1714
Sandberg (CO)	917	2308	2184
San Diego	336	642	813
San Francisco (CO)	514	1860	1709
San Francisco	616	2024	1890
San Jose	572	1489	1348
Santa Maria	558	1644	1566
COLORADO			
Alamosa	1458	4718	5112
Colorado Springs	1165	3317	3513
Denver	1163	3183	3489
Grand Junction	1265	3478	3564
Pueblo	1086	2969	3383
CONNECTICUT			
Bridgeport	1102	2965	3169
Hartford	1198	3380	3458
New Haven	1122	3137	3276
DELAWARE			
Wilmington	1031	2866	2824
DIST. OF COLUMBIA			
Washington (CO)	909	2543	2488
Washington	910	2571	2523
FLORIDA			
Apalachicola (CO)	357	950	827
Daytona Beach	274	753	533
Fort Myers	151	347	250
Jacksonville (CO)	327	900	719
Jacksonville	370	1006	804
Key West (CO)	32	57	46
Miami (CO)	87	160	110
Int. Airport, Hialeah	75	157	118
Miami Beach	50	93	80
Orlando	218	591	410
Pensacola (CO)	405	1058	912
Tallahassee	421	1217	991
Tampa	210	552	424
West Palm Beach	93	218	154
GEORGIA			
Athens	665	1949	1738
Atlanta	654	1911	1757
Augusta	639	1795	1356
Columbus	607	1709	1514
Macon	555	1561	1321
Rome	761	2245	1956
Savannah	525	1471	1099
IDAHO			
Boise	1279	3605	3509
Lewiston	1031	3313	3307
Pocatello	1483	4384	4060
ILLINOIS			
Cairo (CO)	838	2285	2321
Chicago (CO)	1193	3135	
Chicago	1238	3284	3595
Chicago University	1224	3278	
Moline	1329	3614	3730
Peoria	1248	3363	3563
Springfield	1143	3136	3359
INDIANA			
Evansville	978	2715	2654
Ft. Wayne	1216	3428	3582
Indianapolis	1156	3221	3263
South Bend	1266	3561	3694
IOWA			
Burlington	1271	3446	3605
Des Moines	1337	3552	3802
Dubuque	1442	4043	4215
Keokuk (CO)	1165		
IOWA (Cont'd.)			
Sioux City	1321	3636	4156
KANSAS			
Concordia (CO)	1078	2820	3192
Dodge City	974	2639	3027
Goodland	1197	3380	3676
Topeka (CO)	1024	2688	2979
Topeka	1043	2767	3152
Wichita	930	2477	2786
KENTUCKY			
Lexington	1014	2856	2892
Louisville	966	2680	2666
Pikeville (CO)	882	2499	
LOUISIANA			
Baton Rouge	427	1096	1039
Lake Charles	388	925	1009
New Orleans (CO)	330	792	770
Int.Airport,Moisant	365	935	848
Shreveport	528	1331	1398
MAINE			
Caribou	1664	5361	5663
Greenville (CO)	1633	5043	
Portland	1315	4045	4220
MARYLAND			
Baltimore (CO)	926	2479	2417
Baltimore	1005	2854	2773
Frederick	1039	3024	2842
MASSACHUSETTS			
Blue Hill Obs.	1252	3584	
Boston	1127	3046	3128
Nantucket	1078	2926	3098
Pittsfield	1411	4260	4291
MICHIGAN			
Alpena (CO)	1331	4146	4320
Detroit	1196	3425	3536
Detroit (Willow Run)	1223	3488	3614
East Lansing (CO)	1248	3614	
Escanaba (CO)	1400	4307	4686
Grand Rapids (CO)	1207	3444	3597
Grand Rapids	1259	3702	3927
Marquette (CO)	1361	4411	4602
Muskegon	1237	3644	3836
Sault Ste. Marie	1489	4872	5162
MINNESOTA			
Duluth (CO)	1660	5198	5386
Duluth	1704	5305	5600
International Falls	1925	5810	6145
Minneapolis	1571	4336	4577
Rochester	1553	4463	4716
St. Cloud	1701	4896	5173
MISSISSIPPI			
Jackson	577	1519	1417
Meridian	1616	2665	1517
Vicksburg (CO)	520	1316	1282
MISSOURI			
Columbia	1024	2793	3064
Kansas City	1002	2598	2960
St. Joseph	1152	2994	3223
St. Louis (CO)	954	2596	2686
St. Louis	983	2717	2822
Springfield	949	2637	2842
MONTANA			
Billings	1160	3436	4072
Glasgow (CO)	1616	4323	5141
Great Falls	1204	3690	4270
Havre (CO)	1466	4013	4811
Helena	1378	4513	4818
Kalispell	1258	4528	4720
Miles City	1337	3862	4584
Missoula	1316	4462	4684
NEBRASKA			
Grand Island	1278	3400	3761
Lincoln (CO)	1228	3175	3490
Norfolk	1298	3576	4161
North Platte	1378	3757	3852
Omaha	1242	3237	3675
Scottsbluff	1392	3706	3925
Valentine (CO)	1271	3669	4091
NEVADA			
Elko	1603	4608	4241
Ely	1557	4469	4232
Las Vegas	733	1674	1622
Reno	1238	3724	3474
Tonopah	1505	3605	3323
Winnemucca	1456	4281	3765
NEW HAMPSHIRE			
Concord	1357	4082	4299
Mt. Washington	1866	7932	
NEW JERSEY			
Atlantic City (CO)	976	2565	2502
Newark	1055	2859	2951
Trenton (CO)	1057	2872	2856
NEW MEXICO			
Albuquerque	961	2487	2727
Clayton	973	2697	2986
Roswell	807	2151	2202
NEW YORK			
Albany	1351	3797	3901
Binghamton	1400	4142	4193
Buffalo	1240	3576	3695
New York (CO)	1064	2788	2766
La Guardia Field	1035	2666	2724
Rochester	1282	3697	3765
Schenectady	1316	3648	
Syracuse	1354	3730	3594
NORTH CAROLINA			
Asheville (CO)	867	2685	2427
Asheville	913	2879	
Charlotte	731	2109	1978
Greensboro	851	2522	2319
Hatteras (CO)	649	1542	1315
Raleigh	802	2401	2036
Wilmington	635	1739	1402
Winston-Salem	814	2430	2255
NORTH DAKOTA			
Bismarck	1546	4550	5254
Devils Lake (CO)	1770	5145	5769
Fargo	1713	4920	5399
Grand Forks	1829	5281	
Pembina	1909	5081	
Williston (CO)	1573	4483	5271
OHIO			
Akron	1241	3570	3464
Cincinnati (CO)	967	2622	2653
Cincinnati	1069	3015	3028
Cleveland (CO)	1126	3037	3112
Cleveland	1173	3228	3313
Columbus	1127	3186	3233
Dayton	1140	3219	3222
Sandusky (CO)	1156	3162	3238
Toledo	1213	3447	3573
Youngstown	1251	3600	3437
OKLAHOMA			
Oklahoma City	807	2076	2282
Tulsa	780	1972	2238
OREGON			
Astoria	737	2757	2733
Burns (CO)	1352	4204	4103
Eugene	802	2775	2770
Meacham	1198	4402	4348
Medford	891	2781	2711
Pendleton	960	3039	3161
Portland (CO)	731	2286	2418
Roseburg	785	2685	
Salem	793	2760	2640
Sexton Summit (CO)	992	3584	3278
Portland	777	2597	2673
PENNSYLVANIA			
Allentown	1170	3324	3337
Harrisburg	1065	3029	3022
Philadelphia (CO)	972	2599	2557
Philadelphia	996	2711	2777
Pittsburgh (CO)	1051	2942	2882
Pittsburgh	1171	3363	3384
Reading (CO)	1047	2889	2888
Scranton (CO)	1225	3434	3413
Williamsport	1180	3364	3382
RHODE ISLAND			
Block Island	1066	2859	2989
Providence	1139	3194	3346
SOUTH CAROLINA			
Charleston (CO)	472	1262	1103
Charleston	531	1478	1250
Columbia	647	1852	1544
Florence	616	1738	1603
Greenville	689	2093	1873
Spartanburg	694	2084	1881
SOUTH DAKOTA			
Huron	1449	4202	4626
Pierre	1312	3854	
Rapid City	1266	3609	4219
Sioux Falls	1420	4130	4637
TENNESSEE			
Bristol	945	2746	2506
Chattanooga	968	2463	2105
Knoxville	808	2400	2214
Memphis	720	1985	1973
Nashville	832	2328	2150
TEXAS			
Abilene	591	1447	1721
Amarillo	841	2169	2651
Austin	821	1283	1130
Brownsville	112	216	437
Corpus Christi	214	431	695
Dallas	565	1367	1477
Del Rio	434	934	1004
El Paso	696	1630	1756
Ft. Worth	580	1397	1512
Galveston (CO)	301	592	758
Galveston	307	631	780
TEXAS (Cont'd.)			
Houston (CO)	336	701	843
Houston	347	794	903
Laredo	259	464	576
Lubbock	779	2074	2256
Midland	678	1619	
Port Arthur	365	877	993
San Angelo	568	1351	1410
San Antonio	376	782	1062
Victoria	296	608	760
Waco	508	1186	1311
Wichita Falls	662	1617	1937
UTAH			
Milford	1405	3825	3828
Salt Lake City	1353	3544	3473
VERMONT			
Burlington	1509	4333	4385
VIRGINIA			
Lynchburg	1913	3665	2471
Norfolk	820	2138	1986
Richmond	898	2510	2360
Roanoke	915	2713	2472
WASHINGTON			
Olympia	810	3147	3122
Seattle (CO)	693	2399	2529
Seattle	793	2910	3025
Spokane	1173	3859	3993
Stampede Pass (CO)	1213	5326	5111
Tatoosh Island (CO)	680	2975	3193
Walla Walla (CO)	948	2781	2989
Yakima	1096	3559	3657
WEST VIRGINIA			
Charleston	987	2862	2607
Elkins	1192	3592	3312
Huntington (CO)	943	2682	2434
WISCONSIN			
Green Bay	1526	4477	4641
La Crosse	1476	4161	4459
Madison (CO)	1421	3964	4164
Madison	1422	4083	4269
Milwaukee	1335	3716	3999
WYOMING			
Casper	1317	3837	4345
Cheyenne	1236	3665	4137
Lander	1299	4055	4833
Sheridan	1253	3829	4505
ALASKA			
Anchorage	1444	6130	6419
Annette	839	3675	3964
Barrow	2453	10482	10875
Bethel	1560	7239	7363
Cordova	1062	5233	5430
Fairbanks	2114	8543	8693
Juneau	1016	4700	5169
Kotzebue	1939	8906	8850
McGrath	2041	8518	8663
Nome	1599	7830	7808
Northway	2405	9411	9508
St. Paul	1192	6020	5753
Yakutat	1043	5043	5265

Data from airport unless otherwise specified.
CO indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4

JANUARY 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
	1									Minor storm reported at Wilseyville, Calif.
Chickasha, Grady County, Okla.	5	5 a.m.			0	0	Minor	$0	Tornado	TV aerial and brick chimney blown down at Chickasha. 2 black, low-hanging clouds observed northeast of Chickasha in vicinity of Tabler. Minor damage to house 2 miles northwest of Chickasha.
Northumberland County, Pa.	5	Daytime				1			Snow	Icy roads led to 2 auto accidents within 2 hours on same section of highway near Milton, with injury to 1 person.
New England, southeastern portion	6	Morning				Many			Glaze (ice)	Unusually severe glaze storm struck southeastern New England from Portland, Me., to Providence, R. I. Many traffic accidents, mostly minor, and traffic jams widespread as cars unable to negotiate even some of lesser rises of streets and highways. Many injuries from traffic accidents or falls while walking. Property damage generally limited to trees (broken branches) and automobiles (in collision).
	6									Minor storm also reported at Wilseyville, Calif.
New England	7	All day							Wind	Strong northwest winds and gales swept most of New England as aftermath of Atlantic storm of preceding date. Property damage mostly consisted of television antennas blown down and windows shattered. Wind gusts reached 67 m.p.h. at Boston.
	10									Minor storm also reported at Galveston, Texas.
Richmond and Williamsburg and on Middle Peninsula, and Northern Neck, Va.	11	12:01 a.m. -1 p.m.							Snow and freezing rain (glaze)	Schools closed generally in this and adjoining areas. Power out in 60 to 75 locations around Richmond. In each location 2 to 200 customers affected. Telephone service interrupted in about 500 homes in Richmond, but worst trouble was with long-distance lines to the east. Many minor auto accidents.
Hanover and Henrico Counties, Northern Neck, and northern half of Middle Peninsula, Va.	13	2-11 a.m.				8			do	Snow up to 6 inches in far southwest, preceded by freezing rain caused many collisions, principally on U.S. Route 1 in Richmond-Ashland area.
Dauphin County, Pa.	13	2:15 p.m.				7	$1,000		Snow	4 persons seriously injured when car skidded on icy section of road in Clarks Valley. 3 boys injured in coasting accidents in Harrisburg area.
Pennsylvania, central portion	15	Morning				8			do	A baby and 2 adults injured in skidding accident on icy roads near Boiling Springs. 2 women injured in similar accident near Dornsife, about 10 miles east of Sunbury. 3 persons injured in similar accident in Shippensburg.
Wilseyville, Calaveras County, Calif.	15	5 p.m.							do	Rain turned to snow; water content very great; roads blocked with fallen trees; power and telephone lines down; unable to send wire reports due to telephone service suspended for week. Storm forced lumber mill to suspend operations for week.
	17									Minor storm also reported at Blountstown, Fla.
Los Angeles (downtown), Los Angeles County, Calif.	18	11:01 a.m.	3	20-25	0	0	10,000	0	Tornado	Small localized windstorm described as small tornado observed from east side of Federal Building and described as small, dark cloud touching ground and moving northeastward. Storm appeared to have started in vicinity of Seventh Street and Central Avenue where skylights damaged. It caused arcing of power lines and burned out a transformer. Large signboard and tree downed. Automobile overturned and moved 40 feet hitting another automobile. Pieces of corrugated iron roofing and sheet iron ventilator blown against wire fence. Damages sustained by doors, plate-glass windows, etc.
Charleston County, S. C.	18	10-11 p.m.					11,500		Wind	Damage to planes, utility poles, and lines.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Kansas	18				2				Snow	1 to 7 inches of snow left highways slippery, resulting in many highway accidents.
Woodsmere (4 miles northwest of Orlando) Fla.	18	10:30 p.m.	**150	50	0	0			Tornado	Storm moved toward north about 50 yards then toward northeast about 100 yards; uprooted trees in first sector of path aligned with path, those in second sector aligned toward center of path. About 25 grapefruit trees uprooted and several pine trees snapped off at base. Many trees in path remained standing. Moved north and northeastward.
	18									Minor storm also reported at Nederland, Texas.
Southside and southwest Highlands, Va.	19	6 a.m.-noon				10	$5,000		Snow	15 inches of snow in Abingdon area and up to 6 inches elsewhere in region. 19 auto accidents on Route 1 in Richmond-Petersburg area. Schools closed in 21 counties.
Honolulu and Island of Oahu	21				1	3	500,000		Wind	Plate glass broken; trees, utility poles and lines downed; parts of many roofs blown off, more extensive damage to some buildings; hundreds of damage claims filed. 1 person electrocuted by "live" wire; 3 persons injured by shattered glass or wind-driven roofing.
Eastern Perry County and western Dauphin County, Pa.	22	Morning				1			Snow	Truck-trailer jack-knifed on icy road and crashed into guard rail, delaying traffic at west approach to Clarks Ferry Bridge. 40 cars stalled on Peter's Mountain hill due to icy roadway, blocking road for several hours. Another tractor-trailer skidded and crashed about 3 miles north of Harrisburg.
Clearfield County, Pa.	23	Daytime			1	1			do	Car skidded out of control on icy road near Houtzdale, killed 1 girl and injured another.
	23									Minor storms also reported at Milton and Marianna, Fla.
	24									Minor storms also reported at Saint Marks, Quincy, and Madison, Fla.
Pennsylvania, entire State	25	Afternoon and evening			2	23			do	Light snowfall, averaging about 2 inches, packed to create icy highways which were scene of scores of minor traffic accidents and several major accidents. 1 person killed near Pittsburgh, another near Bloomsburg. At least 13 persons injured in skidding accidents. At least 9 other persons injured in pedestrian falls.

** Yards instead of miles.

HURRICANE "ALICE", JANUARY 1955

Compiled by C. E. Rhodes
U. S. Weather Bureau, Washington, D. C.

The record breaking 1954 hurricane season ended only 6 weeks before the occurrence of hurricane Alice of 1955 on January 2. This was the first hurricane in the North Atlantic ever reported by the Weather Bureau in January. The path of this storm during the hurricane stage was confined to an area bounded by latitudes 15° and 20°N. and longitudes 59° and 66°W.

Although important wintertime storms have no doubt occurred in this area in the past, there are no verified records of earlier storms with the intensity and hurricane characteristics observed in Alice of 1955.

Early historians recorded as hurricanes two severe winter storms encountered by Columbus in February and March of 1493 near the Azores on the return portion of his first voyage to America; but more recent comparison of the weather logs of this voyage with the data of known storms does not support the early statement that they were hurricanes.

The disturbed conditions that eventually developed into hurricane Alice had been under surveillance since 7:30 a.m., December 30, when a series of ship reports showed a definite closed circulation near latitude 22°N., longitude 52°W. The storm appeared to be of extratropical nature but began to move on a west-southwest track and approached the northern Leeward Islands. In the afternoon of January 1 reports were received which indicated a stronger and better organized wind circulation than is normally observed in low centers of extratropical characteristics. The first report was received from the ship Arawak which at 2:15 p.m., e.s.t., was positioned at 19°15'N., 59°10'W., with "wind west, force 12; barometer 29.15 inches; temperature 66°; visibility nil". Soon afterward at 6:05 p.m., another ship with radar facilities reported the center "located at 19°07'N., 60°07'W.; moving 255° at 17 knots; diameter of center 20 miles; scattered showers; surface winds 47 knots; seas very rough; swell 040° 15 feet, lasting 6 seconds; sea level pressure 29.56 inches". Other vessel reports along the same line followed in quick succession. It was evident that the low had tropical characteristics and was endagnering the islands in the northeastern corner of the Antillian chain.

Reports received during January 2 indicated that the storm was continuing in a west-southwest track and was now accompanied by winds of hurricane intensity. Late on January 2 the hurricane entered the Caribbean and passed just south of the island of St. Barthelemy between 10:00 a.m. and 1:00 p.m.

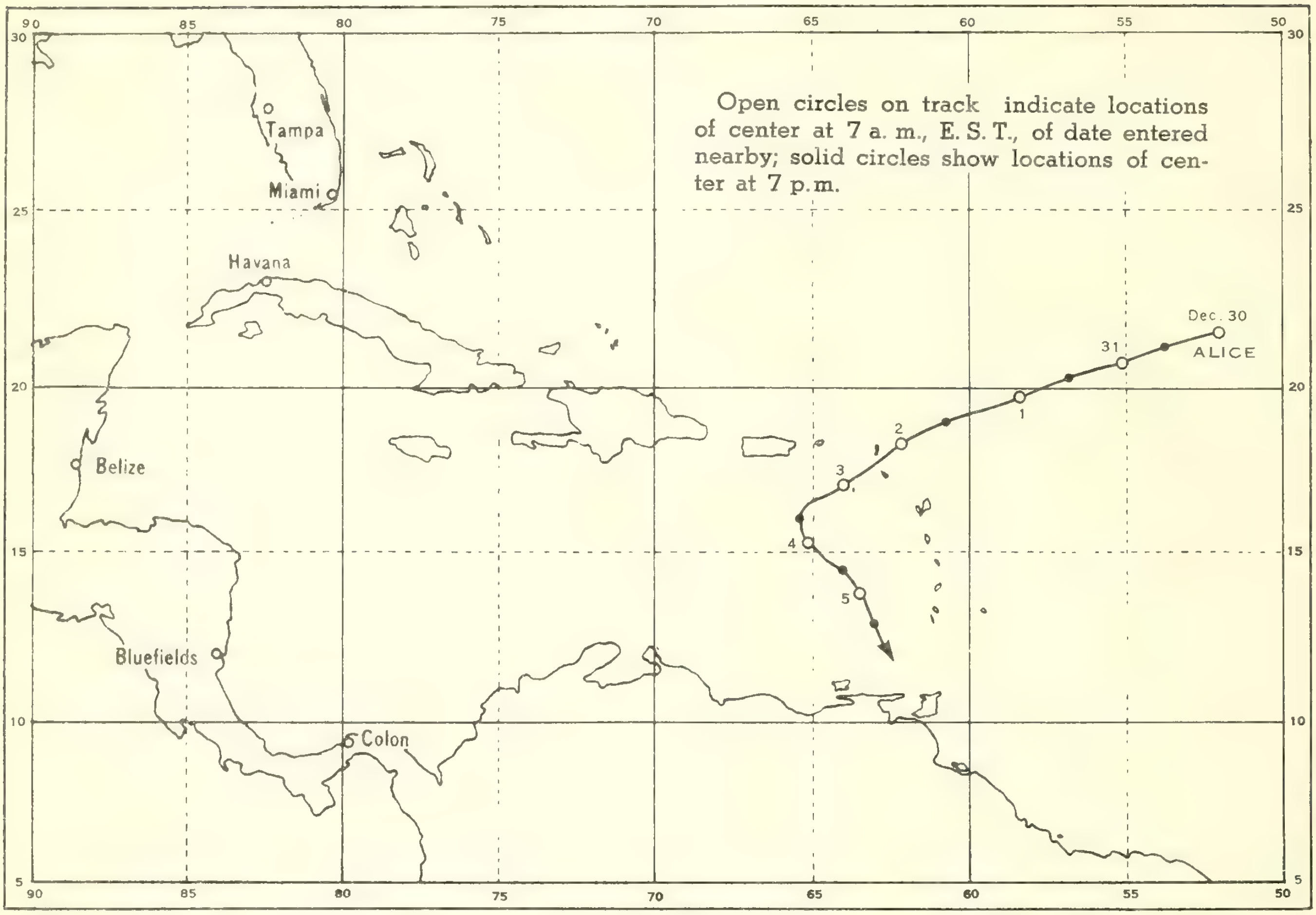
Estimated winds of 75 m.p.h. were reported at the airport on the island of St. Kitts and 69- to 81- m.p.h. winds on St. Barthelemy. During January 3 aircraft reconnaissance into the storm reported maximum winds of 75 knots. A dropsonde in the "eye" indicated that the storm had a warm-core center. Further reconnaissance flights were made during the afternoon of January 3 and on the 4th. However, after January 3 the storm decreased rapidly in intensity. It continued on a southwest track, then turned to the south and southeast. Reconnaissance on January 4 reported only a wide area of squalls. Afterward, the low drifted slowly southeastward and dissipated in the southeastern Caribbean Sea during January 5 and 6.

The hurricane affected the islands of Anguilla, St. Martin, and St. Barthelemy on its north side and the islands of St. Kitts, St. Eustatius, Nevis, Barbuda, Saba, and others to the south of the center. The estimate of losses in dollars is not available, but the destruction represents a great blow to the economy of these small islands. The damage to shipping in particular was severe. In the island of Anguilla 4 schooners, 11 sloops, and 1 boat were destroyed or badly damaged. On land the courthouse was destroyed with considerable loss of records; 4 private homes were destroyed and others damaged. Most of the crops were destroyed or damaged. In St. Martin two schooners and one sloop were lost, and one boat was badly damaged. The schoolhouse was unroofed and the loss of crops was considerable. The island of Saba had heavy rains, causing landslides that destroyed concrete roads and did other damage. Two schooners very important to the economy of the island were destroyed. Losses in general were heavy. At St. Kitts the rainfall averaged 7 inches for the period; rivers flooded and streets and sugar cane fields were heavily damaged. Losses in shipping include 5 open lighters and 2 sloops destroyed.

In Puerto Rico and the Virgin Islands little effect was felt from the storm. The disturbance was somewhat beneficial in Puerto Rico; rainfall was more than the ordinary and it alleviated a dry period which had persisted since the middle of October. Maximum gusts up to 45 knots were reported from St. Thomas and St. Croix and up to 40 knots in eastern Puerto Rico.

HURRICANE "ALICE", JANUARY 1955—Continued

Track of Hurricane "Alice", December 30, 1954 to January 6, 1955


Open circles on track indicate locations of center at 7 a. m., E. S. T., of date entered nearby; solid circles show locations of center at 7 p.m.
Tampa
Miami
Havana
Belize
Bluefields
Colon
Dec. 30
ALICE
31
1
2
3
4
5
90
85
80
75
70
65
60
55
50
30
25
20
15
10
5

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JANUARY 1955

No damages were reported from the light flooding during January. Drought conditions continued for the 13th consecutive month in portions of the East Gulf of Mexico drainage. The previous January record low stage was equalled on the Cahaba River at Marion Junction, Ala.

ST. LAWRENCE DRAINAGE

The light flooding in the Lake Erie drainage between the 6th and 9th was due to light to heavy precipitation between the 4th and 6th. The precipitation during the last 24-hour period averaged about 1.25 inches. No damages were reported.

ATLANTIC SLOPE DRAINAGE

During January, flooding in the Atlantic Slope drainage was due to the heavy rains from December 28 to 29, and was reported last month.

EAST GULF OF MEXICO DRAINAGE

Light flooding on the Pearl River at Bogalusa, La., on the 1st and 2d was due to heavy rain (2 to 4 inches) on December 28 and 29. Another rise with minor flooding occurred again on the 18th and 19th from the heavy rain on the 15th and 16th. No damage resulted from the overflows.

The stage of 2.9 feet reached on the Cahaba River at Marion Junction, Ala., on the 10th equalled the lowest January stage of record, 1939 - 1955. The previous January record low stage was 2.9 feet on January 4 and 5, 1940.

The annual rainfall in the State of Alabama during 1954 was 34.56 inches, or 18.89 inches below normal, making 1954 the driest year of record, 1884 - 1954, in the State. Previous driest year was 1904 with an annual rainfall of 39.48 inches. December 1954 was the 12th consecutive month with precipitation below normal in Alabama.

The United States Geological Survey reports that January was the 7th month since May 1953 with record low monthly runoff at the key station on the Conecuh River at Brantley, Ala. January 1955 was the first month with near normal stream flow at Centreville, Ala., since January 1954.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Moderate rains in the Illinois Basin during the 48-hour period ending on the morning of the 7th caused light flooding at La Salle and Havana, Ill., between the 7th and 14th. The precipitation averaged slightly less than an inch in the upper reaches and about 1.4 inches in the middle and lower reaches. No damage was reported.

Missouri Basin.--Rivers were at low stage over the Missouri Basin during January with the exception of some light flooding on the Chariton and Lamine Rivers in Missouri. Snows were generally light, and at the end of the month there were only 1 to 5 inches of accumulated snow on the ground in the Plains area. Most of the basin had only 1 to 3 inches. The soil is generally dry beneath the snow.

The Missouri River froze over at Sioux City, Iowa, on the 13th and at Yankton, S. Dak., on the 20th and 21st. At the close of the month there were numerous small ice jams from Yankton to below Sioux City with stretches of open water. The ice was relatively thin for this date, reports indicating a thickness of 10 to 15 inches.

Ohio Basin.--Precipitation occurred frequently during January, measurable amounts being reported over the Ohio Basin on 26 days. However, with temperatures below normal during more than half the month, the precipitation fell as snow on 18 of the 26 days. Runoff from rainfall occurred during the first week, with alternate periods of snowmelt runoff, or a combination of both, during the remainder of the month. By the 10th, snow cover over much of the valley ranged from 2 to 5 inches, except for local amounts of 12 to 15 inches at higher elevations in West Virginia. This cover disappeared or decreased with thawing, followed by similar depths and periods of melting at intervals throughout the month. At the end of January, a snow cover of 2.5 inches remained north of the Ohio River, ranging up to 15 inches in West Virginia and little or none elsewhere. Light floating ice and shore ice was reported throughout most of the Ohio River on January 28 - 31, but caused no particular difficulty since the river was in pool. Smaller tributaries were frozen over during the latter part of the month, with shore and floating ice reported in most larger tributaries. Late December rises caused tributaries to recede at the beginning of the month. Moderately heavy rainfall on the 4th to 6th resulted in sharp rises with moderate flooding only on the upper and middle Wabash and White Rivers, where flood stages were exceeded by 1 to 5 feet. Slight tributary rises occurred on several occasions later in the month from snowmelt or light rainfall, or a combination of both.

At the beginning of January, the Ohio River was rising rapidly--a continuation of the late December rise. Except at Dam 50 which was only 2.5 feet under flood stage, crests of this rise were well below flood stage. The Ohio receded rather slowly thereafter due to occasional periods of snowmelt runoff, finally reaching pool conditions on the 23d to 25th.

Lower Mississippi Basin.--The heavy rains from December 27 to 29, 1954, caused minor flooding on the St. Francis River on the 1st and 2d. The precipitation averaged about 2 inches in the upper reaches, about 3½ inches in the area from Wappapello Dam to St. Francis, and 3 inches elsewhere.

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

Table 5

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
ST. LAWRENCE DRAINAGE Lake Erie					
St. Marys: Decatur, Ind.	15	6	9	17.5	7
Maumee: Fort Wayne, Ind.	15	6	7	15.9	7
MISSISSIPPI SYSTEM Upper Mississippi Basin					
Illinois:					
La Salle, Ill.	20	7	8	**20.5	7
Havana, Ill.	14	11	14	14.0	12-13
Missouri Basin					
Chariton: Novinger, Mo.	20	5	6	23.4	6
Lamine: Clifton City, Mo.	15	6	6	16.6	6
Ohio Basin					
White:					
Anderson, Ind.	10	6	17	11.4	7
MISSISSIPPI SYSTEM (Cont'd.) Ohio Basin (Cont'd.)					
White:					
Edwardsport, Ind.	12	6	12	14.8	8
Wabash:					
Wabash, Ind.	12	6	9	17.0	7
La Fayette, Ind.	11	6	10	16.6	8
Covington, Ind.	18	9	10	19.1	10
Montezuma, Ind.	14	7	12	16.5	11
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	1	2	20.2	2
EAST GULF OF MEXICO DRAINAGE					
Pearl: Bogalusa, La.	15	1 18	2 19	16.3 15.4	1 19

* Provisional

** Highest stage reported but not necessarily the crest

RADIOSONDE DATA

Average monthly values

Table 20

JANUARY 1955

Standard pressure surface (mb.)	ALBUQUERQUE, N. MEX. (838 MB.)				ANCHORAGE, ALASKA (997 MB.)				ANNETTE, ALASKA (1009 MB.)				ATLANTA, GA. (983 MB.)				BARROW, ALASKA (1011 MB.)				BETHEL, ALASKA (994 MB.)				BISMARCK, N. DAK (955 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,619	1.6	51	31	42	- 6.4	70	31	37	3.5	87	30	309	5.9	76	31	8	-25.6	53	31	4	- 8.3	84	31	505	- 9.8	78
1000---	31	167			31	6	- 6.5		31	108	3.3	86	30	164			31	84	-24.2	70	31	49	-10.7		31	142		
950----	31	595			31	415	- 3.5	66	31	526	1.2	82	30	589	5.2	62	31	472	-19.7	81	31	361	- 5.8	72	31	546	- 9.6	74
900----	31	1,040			31	837	- 4.0	65	31	955	- 1.1	82	30	1,028	4.9	54	31	864	-15.6	78	31	776	- 6.8	71	31	962	- 7.6	64
850----	31	1,502			31	1,286	- 6.6	69	31	1,409	- 3.4	80	30	1,495	4.8	43	31	1,296	-15.2	69	31	1,220	- 8.8	70	31	1,405	- 8.4	65
800----	31	1,991	.9	45	31	1,757	- 9.5	71	31	1,887	- 5.9	78	30	1,988	3.5	47	31	1,752	-16.7	63	31	1,687	-11.2	70	31	1,875	- 9.3	64
750----	31	2,515	- 2.3	46	31	2,254	-12.7	69	31	2,394	- 8.8	75	30	2,517	1.7	45	31	2,242	-18.8	59	31	2,187	-14.2	67	31	2,379	-11.1	60
700----	31	3,052	- 5.3	46	31	2,775	-16.1	63	31	2,921	-11.7	68	30	3,063	- 1.1	42	31	2,746	-21.8	58	31	2,699	-17.6	67	31	2,898	-13.9	54
650----	31	3,636	- 8.6	45	31	3,334	-19.9	58	31	3,490	-15.2	62	30	3,658	- 4.0	40	31	3,295	-25.0	55	31	3,257	-21.1	62	31	3,469	-16.9	54
600----	31	4,246	-12.4	39	31	3,917	-24.0	54	31	4,085	-19.1	60	30	4,278	- 7.7	37	31	3,865	-28.8	53	31	3,835	-25.3	58	31	4,054	-20.1	51
550----	30	4,908	-16.9	37	31	4,546	-28.3	53	31	4,733	-23.0	57	30	4,951	-12.0	40	31	4,487	-32.7	49	31	4,465	-30.0	54	31	4,699	-24.2	51
500----	30	5,611	-21.5	37	31	5,223	-32.7	51	31	5,420	-27.3	55	30	5,673	-16.7	39	31	5,148	-37.1	46	31	5,132	-35.2	53	31	5,382	-28.5	47
450----	30	6,392	-26.7		31	5,961	-37.7		30	6,176	-32.6	55	30	6,465	-22.0	37	30	5,878	-42.0		31	5,865	-40.2		31	6,136	-33.7	47
400----	30	7,220	-32.5		30	6,764	-42.5		28	6,988	-38.7		30	7,313	-28.0	38	30	6,658	-46.9		31	6,653	-45.5		31	6,945	-39.7	
350----	29	8,148	-38.5		30	7,654	-47.8		27	7,897	-45.0		30	8,259	-34.4	39	30	7,532	-51.5		31	7,533	-49.7		31	7,845	-45.7	
300----	29	9,190	-45.7		29	8,657	-52.1		27	8,910	-51.8		30	9,320	-42.0		30	8,525	-54.1		31	8,534	-51.9		31	8,858	-50.7	
250----	28	10,381	-52.1		28	9,829	-52.2		27	10,076	-56.3		29	10,531	-49.5		30	9,694	-52.9		31	9,715	-50.5		31	10,035	-53.0	
200----	28	11,817	-53.9		28	11,284	-48.4		26	11,502	-52.8		29	11,975	-54.5		30	11,143	-49.7		31	11,175	-48.2		31	11,480	-50.3	
175----	27	12,677	-54.7		28	12,163	-47.8		25	12,362	-51.3		29	12,826	-56.1		30	12,017	-49.2		30	12,058	-47.2		30	12,348	-49.1	
150----	27	13,660	-55.9		28	13,179	-47.8		25	13,364	-51.2		28	13,809	-58.2		29	13,025	-48.6		28	13,074	-47.0		28	13,360	-49.7	
125----	27	14,812	-58.9		26	14,386	-47.9		24	14,553	-51.8		28	14,946	-62.1		29	14,223	-48.3		24	14,271	-46.6		28	14,546	-51.6	
100----	26	16,198	-62.4		25	15,858	-48.6		22	15,987	-52.8		23	16,312	-65.0		29	15,690	-48.5		22	15,753	-46.3		28	15,986	-54.1	
80-----	21	17,552	-63.9		24	17,322	-49.7		18	17,412	-54.1		20	17,666	-67.6		28	17,176	-48.6		22	17,228	-47.8		27	17,408	-55.6	
60-----	14	19,300	-62.7		21	19,198	-51.7		15	19,259	-55.7		10	19,395	-65.4		27	19,071	-50.1		22	19,115	-50.3		24	19,238	-57.4	
50-----	9	20,417	-62.1		17	20,361	-52.9		13	20,421	-55.9						25	20,255	-50.7		21	20,305	-51.1		21	20,388	-58.0	
40-----					14	21,800	-53.9		5	21,819	-55.1						14	21,687	-50.6		18	21,755	-51.8		16	21,808	-58.2	
30-----					9	23,636	-54.2		5	23,656	-55.0										7	23,589	-53.8		7	23,666	-57.1	

Standard pressure surface (mb.)	BOISE, IDAHO (921 MB.)				BROWNSVILLE, TEX. (1018 MB.)				BUFFALO, N. Y. (993 MB.)				BURRWOOD, LA. (1020 MB.)				CARIBOU, ME. (986 MB.)				CHARLESTON, S. C. (1017 MB.)				COLUMBIA, MO. (990 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	868	- 5.3	82	31	7	16.7	82	31	182	- 4.5	82	31	3	12.3	86	31	191	-10.9	76	31	13	7.4	80	31	238	- 0.7	70
1000---	31	212			31	159	17.2	75	31	127	- 6.5		31	168	13.1	74	31	80			31	151	10.1	61	31	155		
950----	31	621			31	598	14.4	73	31	531	- 5.8	73	31	600	11.1	67	31	479	-10.4	76	31	583	8.6	53	31	571	- 1.1	65
900----	31	1,047	- 2.9	72	31	1,051	12.4	64	31	953	- 8.1	75	31	1,048	9.7	60	31	892	-10.3	80	31	1,023	7.5	48	31	997	- 2.2	61
850----	31	1,499	- 4.1	71	31	1,529	11.2	55	31	1,395	- 9.6	67	31	1,522	8.5	48	31	1,332	-10.5	79	31	1,492	5.9	45	31	1,450	- 3.3	57
800----	31	1,975	- 5.8	68	31	2,035	10.3	41	31	1,862	-11.4	65	31	2,022	7.2	40	31	1,797	-11.5	72	31	1,987	4.7	40	31	1,928	- 4.1	55
750----	31	2,486	- 7.7	65	31	2,577	8.1	37	31	2,360	-13.0	58	31	2,557	5.6	34	31	2,296	-12.7	64	31	2,518	2.6	38	31	2,444	- 5.5	50
700----	31	3,014	- 9.8	57	31	3,136	4.8	38	30	2,877	-15.2	50	31	3,112	2.8		31	2,815	-14.7	59	31	3,066	- .2	42	31	2,975	- 7.8	45
650----	31	3,590	-12.9	49	31	3,742	1.3		30	3,443	-18.0	48	31	3,706	- .4	32	31	3,381	-17.8	57	31	3,661	- 3.3	42	31	3,555	-10.5	41
600----	31	4,188	-16.4	47	31	4,376	- 2.7		30	4,028	-21.4	46	31	4,344	- 4.2	35	30	3,969	-21.1	53	31	4,285	- 6.8	42	31	4,160	-14.0	
550----	31	4,840	-20.1	49	31	5,061	- 7.1		30	4,669	-25.3	46	31	5,024	- 8.3		29	4,610	-25.3	51	31	4,965	-10.7	41	31	4,818	-18.1	
500----	31	5,538	-24.8	48	31	5,796	-12.1		29	5,344	-29.9	43	30	5,754	-13.3		29	5,291	-29.8	50	31	5,686	-16.2	38	31	5,521	-22.9	35
450----	31	6,301	-30.4	45	31	6,603	-17.7		27	6,079	-35.1		30	6,554	-18.8		29	6,039	-34.6	48	31	6,482	-20.4	38	31	6,293	-28.2	39
400----	29	7,128	-36.4		31	7,465	-23.7		27	6,882	-40.2		30	7,416	-25.2	34	29	6,848	-39.9		31	7,336	-26.5	37	31	7,119	-34.2	
350----	29	8,040	-43.0		31	8,427	-30.6		27	7,782	-45.3		29	8,371	-32.5	35	29	7,748	-45.1		31	8,287	-33.4	38	30	8,044	-40.6	
300----	28	9,071	-49.2		31	9,505	-38.4		26	8,807	-49.1		29	9,439	-40.5		29	8,765	-49.7		31	9,352	-41.2		30	9,079	-46.7	
250----	26	10,265	-54.7		31	10,732	-47.6		25	10,009	-50.3		28	10,655	-49.0		29	9,952	-50.5		31	10,567	-49.3		30	10,271	-52.2	
200----	26	11,684	-55.7		30	12,174	-55.8		22	11,467	-48.7		28	12,096	-55.9		29	11,414	-47.9		30	12,015	-55.0		30	11,710	-52.6	
175----	26	12,535	-54.5		30	13,017	-58.8		19	12,359	-48.9		28	12,935	-58.7		29	12,294	-48.0		30	12,864	-56.8		30	12,572	-53.0	
150----	26	13,523	-53.7		30	13,978	-61.7		18	13,370	-50.8		27	13,902	-61.8		29	13,307	-49.0		30	13,836	-59.3		29	13,561	-54.2	
125----	26	14,689	-55.2		27	15,094	-66.6		14	14,571	-53.0		27	15,018	-66.2		29	14,499	-50.6		28	14,968	-63.5		29	14,723	-56.8	
100----	25	16,106	-57.4		26	16,432	-72.1						19	16,379	-71.5		28	15,945	-52.7		28	16,324	-67.3		28	16,123	-60.3	
80-----	21	17,503	-58.3		20	17,753	-75.2						17	17,697	-73.8		25	17,373	-55.3		25	17,656	-69.1		27	17,499	-61.8	
60-----	17	19,302	-60.0		13	19,433	-71.4						14	19,392	71.0		25	19,200	-56.8		19	19,395	-67.5		24	19,282	-62.2	
50-----	13	20,448	-60.9		8	20,526	-69.1						9	20,489	-68.1		21	20,339	-57.4		19	20,498	-65.5		18	20,396	-61.4	
40-----	9	21,810	-61.5		7	21,872	-65.7						7	21,841	-64.6		15	21,766	-57.6		15	21,866	-63.3		10	21,799	-60.6	
30-----																	10	23,584	-58.4		8	23,659	-61.7		6	23,597	-59.7	

Standard pressure surface (mb.)	DODGE CITY, KANS. (925 MB.)				EL PASO, TEX. (883 MB.)				ELY, NEV. (808 MB.)				FAIRBANKS, ALASKA (987 MB.)				GLASGOW, MONT. (938 MB.)				GRAND JUNCTION, COLO (854 MB.)				GREAT FALLS, MONT. (885 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	792	- 0.2	70	31	1,195	6.0	49	31	1,908	- 9.8	74	31	135	-19.2	75	31	648	- 9.8	75	31	1,474	- 4.3	79	31	1,123	- 3.8	65
1000---	31	158			31	155			31	223			31	39			31	150			31	205			31	145		
950----	31	577			31	591			31	639			31	436	- 9.5	65	31	553			31	621			31	564		
900----	31	1,011	1.3	53	31	1,040			31	1,065			31	848	- 8.4	59	31	972	- 6.4	70	31	1,052			31	990		
850----	31	1,470	.6	48	31	1,506	6.1	41	31	1,513			31	1,292	- 8.3	57	31	1,418	- 6.5	64	31	1,507	- 4.0	70	31	1,445	- 2.1	49
800----	31	1,956	- .1	39	31	1,999	3.2	42	31	1,988	- 6.3	70	31	1,761	- 9.7	54	31	1,891	- 8.2	57	31	1,987	- 3.4	60	31	1,924	- 5.0	55
750----	31	2,475	- 2.7	38	31	2,527	.9	40	31	2,503	- 5.1	60	31	2,265	-12.5	54	31	2,394	-10.5	56	31	2,504	- 5.1	58	31	2,433	- 8.6	60
700----	31	3,014	- 5.6	39	31	3,071	- 2.2	36	31	3,035	- 7.6	53	31	2,780	-15.8	52	31	2,917	-13.6	54	31	3,034	- 8.4	58	31	2,960	-12.1	63
650----	31	3,599	- 8.9	37	31	3,663	- 5.8	36	31	3,612	-10.5	52	31	3,344	-19.7	52	31	3,487	-16.9	54	31	3,613	-11.6	54	31	3,529	-15.0	56
600----	31	4,207	-12.8	36	30	4,281	- 9.7	35	31	4,221	-14.0	47	31	3,924	-23.8	51	31	4,074	-20.3	50	31	4,215	-14.9	52	31	4,124	-18.9	56
550----	31	4,871	-17.4		30	4,952	-14.4	35	31	4,879	-18.4	47	31	4,556	-28.4	54	31	4,719	-24.4	50	31	4,872	-18.9	47	31	4,767	-23.1	56
500----	30	5,569	-22.6		30	5,661	-19.2		31	5,581	-23.2	47	31	5,229	-33.5	54	31	5,401	-29.1	51	31	5,570	-23.5	44	31	5,459	-27.8	56
450----	30	6,343	-27.8	37	30	6,447	-24.3		31	6,349	-28.8	47	31	5,966	-39.1		31	6,153	-34.6	49	31	6,338	-28.9	44	31	6,211	-33.3	52
400----	30	7,171	-33.8		30	7,285	-30.0		31	7,177	-34.7	42	31	6,757	-44.6		31	6,959	-40.1		31	7,164	-35.1	43	31	7,027	-39.0	53
350----	30	8,094	-40.3		30	8,223	-36.6		31	8,097	-41.4		31	7,641	-49.1		31	7,859	-45.5		31	8,082	-41.4		31	7,928	-45.4	
300----	30	9,131	-46.6		29	9,273	-43.6		31	9,128	-47.5		31	8,642	-52.7		31	8,873	-51.0		29	9,105	-47.9		31	8,940	-51.8	
250----	30	10,321	-52.5		26	10,476	-51.3		30	10,314	-53.0		31	9,815	-52.8		31	10,050	-53.2		27	10,284	-54.1		31	10,107	-55.9	
200----	30	11,754	-53.1		25	11,911	-55.3		28	11,740	-53.6		31	11,265	-49.2		31	11,492	-50.9		27	11,713	-53.2		31	11,531	-53.3	
175----	30	12,615	-53.2		23	12,761	-56.9		28	12,597	-53.5		31	12,142	-48.3		31	12,363	-49.8		27	12,574	-52.5		31	12,393	-51.8	
150----	30	13,604	-54.4		22	13,732	-58.4		28	13,588	-53.7		31	13,157	-48.0		31	13,370	-50.5		26	13,577	-53.9		31	13,390	-52.1	
125----	30	14,767	-56.8		22	14,867	-62.3		27	14,758	-55.7		31	14,358	-47.8		31	14,555	-51.9		25	14,743	-56.0		31	14,566	-53.3	
100----	29	16,164	-59.8		20	16,227	-65.8		26	16,165	-59.1		31	15,826	-48.8		31	15,994	-53.7		25	16,149	-59.4		30	15,992	-55.2	
80-----	27	17,549	-62.0		17	17,581	-66.8		23	17,558	-60.7		31	17,289	-49.5		31	17,423	-55.4		23	17,532	-60.1		28	17,405	-57.2	
60-----	20	19,323	-62.2		13	19,310	-66.0		16	19,364	-61.2		29	19,159	-51.5		24	19,266	-56.8		14	19,339	-61.0		24	19,221	-58.3	
50-----	13	20,440	-61.5		9	20,415	-65.0		12	20,495	-60.3		23	20,333	-52.5		20	20,426	-56.8		10	20,476	-60.3		24	20,365	-59.0	
40-----					7	21,774	-63.7		5	21,887	-59.0		15	21,754	-52.8		9	21,834	-57.1		6	21,903	-60.1		19	21,787	-58.7	
30-----													5	23,625	-53.8		5	23,725	-55.4						8	23,583	-59.0	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

JANUARY 1955

Standard pressure surface (mb)	GREEN BAY, WIS. (990 MB.)				GREENSBORO, N. C. (986 MB.)				HATTERAS, N. C. (1017 MB.)				HILO, T. H. (1016 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	210	-8.6	75	31	273	2.2	73	31	3	6.0	75	31	9	22.6	74
1000	31	131			31	156			31	142	6.3	65	31	153	21.1	76
950	31	534	-7.9	68	31	571	3.4	54	31	566	4.4	58	31	597	17.6	79
900	31	949	-9.1	64	31	1,010	1.6	52	31	1,000	3.3	52	31	1,056	14.2	82
850	31	1,391	-9.6	55	31	1,469	.5	51	31	1,462	1.9	47	31	1,537	11.1	86
800	31	1,857	-11.0	50	31	1,955	-.6	49	31	1,950	.5	47	31	2,043	9.6	66
750	31	2,358	-13.0	48	31	2,475	-2.2	44	31	2,474	-1.2	45	31	2,587	7.6	46
700	31	2,875	-14.7	48	31	3,015	-4.1	42	31	3,014	-3.5	43	31	3,143	5.1	
650	31	3,440	-17.2	47	31	3,602	-7.6	40	31	3,604	-6.4	41	31	3,747	1.7	
600	31	4,030	-20.3	47	31	4,215	-10.4	41	31	4,219	-10.1	42	31	4,386	-1.7	
550	31	4,674	-24.0	46	31	4,884	-14.3	44	31	4,890	-14.1	42	31	5,075	-5.7	
500	31	5,359	-28.0	41	29	5,604	-19.0	49	31	5,601	-18.5	46	31	5,815	-10.3	
450	31	6,110	-33.1		29	6,390	-23.7	47	31	6,390	-23.1	46	31	6,627	-15.7	
400	31	6,926	-38.5		28	7,230	-29.5	48	31	7,234	-28.7	44	31	7,497	-21.7	
350	31	7,830	-44.1		28	8,169	-36.3	46	31	8,177	-35.3		31	8,467	-28.6	
300	31	8,852	-48.9		25	9,228	-43.7		31	9,234	-42.3		31	9,554	-35.8	
250	30	10,049	-50.4		24	10,430	-50.5		31	10,445	-49.5		31	10,798	-44.0	
200	30	11,509	-49.0		24	11,870	-54.0		30	11,892	-53.0		31	12,263	-53.6	
175	30	12,385	-48.6		24	12,724	-54.9		30	12,749	-54.4		31	13,111	-59.1	
150	30	13,395	-50.0		22	13,701	-56.0		30	13,732	-56.4		29	14,062	-65.4	
125	29	14,585	-52.1		22	14,851	-59.6		30	14,879	-59.9		28	15,157	-70.9	
100	28	16,026	-54.7		22	16,233	-63.5		28	16,250	-63.9		24	16,455	-76.9	
80	26	17,451	-56.7		19	17,584	-64.8		25	17,604	-65.2		11	17,713	-77.9	
60	22	19,264	-58.1		14	19,347	-64.0		23	19,355	-64.7					
50	19	20,409	-58.3		14	20,464	-63.2		20	20,478	-63.5					
40	12	21,830	-58.3		11	21,845	-62.0		18	21,854	-62.5					
30					6	23,597	-61.8		11	23,659	-61.5					

Standard pressure surface (mb)	INTERNAT. FALLS, MINN. (971 MB.)				KOTZEBUE, ALASKA (1004 MB.)				LAKE CHARLES, LA. (1020 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	360	-15.0	69	31	5	-16.9	76	31	5	10.8	82
1000	31	135			31	34	-16.9	69	31	169	11.5	73
950	31	529	-13.4	69	31	432	-11.4	75	31	599	10.2	68
900	31	937	-13.1	68	31	839	-11.3	74	31	1,047	9.2	60
850	31	1,372	-13.3	66	31	1,276	-12.4	72	31	1,520	8.0	48
800	31	1,833	-14.0	64	31	1,737	-13.9	66	31	2,019	6.7	39
750	31	2,331	-15.9	63	31	2,233	-16.6	63	31	2,555	4.9	39
700	31	2,838	-17.7	58	31	2,739	-19.8	58	31	3,107	2.1	39
650	31	3,398	-20.2	54	31	3,294	-23.2	53	31	3,707	-1.3	38
600	31	3,978	-23.4	51	31	3,866	-26.8	48	30	4,334	-4.8	37
550	31	4,612	-27.0	50	31	4,493	-31.3	46	29	5,014	-9.1	
500	31	5,290	-31.5	49	31	5,156	-36.1	45	29	5,743	-13.9	
450	31	6,034	-36.7	50	31	5,884	-41.1		27	6,549	-19.0	
400	31	6,833	-42.4		31	6,670	-46.1		26	7,407	-25.6	
350	31	7,725	-47.3		31	7,549	-50.8		26	8,361	-32.2	
300	29	8,745	-50.6		31	8,544	-53.5		26	9,429	-40.4	
250	29	9,930	-50.4		31	9,718	-52.1		26	10,646	-49.0	
200	27	11,403	-48.6		31	11,173	-48.8		24	12,087	-54.4	
175	27	12,281	-48.2		31	12,051	-48.2		23	12,936	-56.2	
150	27	13,294	-49.0		31	13,067	-47.8		22	13,905	-59.1	
125	26	14,481	-50.5		31	14,270	-47.3		21	15,036	-63.6	
100	22	15,931	-52.8		31	15,747	-47.3		19	16,389	-68.1	
80	20	17,367	-54.4		31	17,221	-47.6		15	17,710	-68.9	
60	16	19,232	-56.6		31	19,113	-49.5		8	19,389	-66.7	
50	13	20,365	-57.2		28	20,300	-50.1		5	20,498	-65.2	
40	11	21,797	-57.4		20	21,754	-50.6					
30	9	23,620	-56.8		6	23,602	-51.5					

Standard pressure surface (mb)	LANDER, WYO. (825 MB.)				LAS VEGAS, NEV. (941 MB.)				LITTLE ROCK, ARK. (1010 MB.)				MAZATLAN, MEXICO (1014 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,696	-5.6	54	31	660	4.9	58	30	79	6.0	68	31	14	19.1	78
1000	31	156			31	161			30	162	6.8	62	31	130	18.4	76
950	31	571			31	586			30	588	5.1	56	31	582	19.2	55
900	31	1,007			31	1,028	5.7	44	30	1,023	3.9	52	31	1,035	16.5	53
850	31	1,462			31	1,493	2.8	46	30	1,486	2.4	47	31	1,519	13.5	53
800	31	1,942	-2.7	45	31	1,981	-.1	50	30	1,975	1.4	45	31	2,027	10.7	51
750	31	2,454	-5.0	43	31	2,501	-2.6	46	30	2,504	-.5	43	31	2,574	7.1	
700	31	2,990	-8.4	44	31	3,039	-5.5	45	30	3,041	-3.1	41	31	3,126	3.8	
650	31	3,565	-12.3	45	31	3,620	-8.9	40	30	3,632	-5.9		31	3,729	.5	
600	31	4,168	-16.0	44	31	4,232	-13.0	34	30	4,248	-9.5		30	4,362	-3.3	
550	31	4,818	-19.8	40	31	4,894	-17.5	32	30	4,920	-13.5		30	5,047	-7.5	
500	31	5,518	-24.9	37	31	5,596	-22.7	37	30	5,634	-18.1		30	5,781	-12.3	
450	31	6,279	-30.7	37	31	6,368	-28.7	39	30	6,423	-23.4		30	6,585	-17.8	
400	31	7,100	-37.2	36	31	7,193	-35.2	40	30	7,265	-29.0		30	7,450	-23.5	
350	31	8,009	-43.7		31	8,110	-41.6		30	8,206	-35.7		28	8,416	-30.3	
300	31	9,029	-50.0		30	9,134	-48.0		30	9,261	-42.8		23	9,494	-38.8	
250	31	10,202	-55.2		30	10,320	-52.9		29	10,464	-50.3		13	10,738	-48.0	
200	31	11,625	-54.6		30	11,748	-55.0		29	11,904	-54.0		5	12,191	-58.7	
175	31	12,483	-52.8		30	12,602	-54.7		27	12,763	-54.7		5	13,023	-61.6	
150	31	13,478	-53.1		30	13,586	-55.9		26	13,742	-56.4					
125	31	14,648	-54.9		29	14,733	-58.8		25	14,890	-59.4					
100	30	16,065	-57.3		25	16,115	-61.3		25	16,271	-63.0					
80	30	17,470	-59.5		21	17,489	-62.9		24	17,635	-64.9					
60	25	19,268	-60.6		16	19,255	-64.6		18	19,376	-65.0					
50	19	20,412	-60.5		12	20,375	-63.7		18	20,489	-64.2					
40	9	21,755	-61.3		9	21,763	-62.0		17	21,853	-62.3					
30									15	23,635	-60.8					
20									8	26,133	-57.5					

Standard pressure surface (mb)	MC GRATH, ALASKA (989 MB.)				MEDFORD, ORE. (973 MB.)				MIAMI, FLA. (1019 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	103	-16.0	78	31	401	2.4	88	31	4	17.0	79
1000	31	17			31	176			31	162	17.9	68
950	31	416	-12.2	73	31	597	3.6	73	31	601	15.7	67
900	31	824	-8.3	69	31	1,033	2.7	65	31	1,057	13.3	63
850	31	1,267	-8.9	62	31	1,494	.8	60	31	1,536	11.6	50
800	31	1,735	-11.1	63	31	1,979	-1.6	57	31	2,041	10.3	35
750	31	2,234	-14.0	65	31	2,495	-4.2	54	31	2,583	8.8	
700	31	2,747	-17.5	64	31	3,031	-7.4	49	31	3,145	6.2	
650	31	3,307	-21.4	65	31	3,610	-10.7	47	31	3,749	3.0	
600	31	3,883	-25.6	61	31	4,216	-14.4	45	31	4,393	-.4	
550	31	4,513	-29.9	57	31	4,874	-18.1	41	31	5,081	-4.9	
500	31	5,180	-34.6	54	31	5,577	-22.8	38	31	5,826	-9.7	
450	31	5,915	-39.7		31	6,347	-28.3	38	31	6,635	-15.6	
400	30	6,702	-44.7		31	7,175	-34.4	39	31	7,509	-22.4	
350	30	7,586	-48.9		31	8,094	-41.7		31	8,475	-29.7	
300	30	8,589	-52.1		31	9,121	-48.8		30	9,557	-37.9	
250	30	9,767	-51.8		31	10,301	-54.6		30	10,788	-46.7	
200	30	11,226	-48.1		31	11,719	-56.1		30	12,239	-55.3	
175	29	12,115	-47.4		31	12,569	-55.3		30	13,084	-58.7	
150	28	13,135	-47.6		31	13,554	-54.3		29	14,038	-63.0	
125	23	14,335	-48.2		31	14,719	-55.8		29	15,145	-68.5	
100	20	15,793	-49.5		30	16,124	-58.8		25	16,462	-74.0	
80	14	17,237	-50.7		29	17,518	-60.1		24	17,755	-76.3	
60	13	19,094	-52.8		27	19,308	-60.7		19	19,431	-73.1	
50	12	20,267	-53.5		23	20,446	-60.6		15	20,511	-69.7	
40	10	21,698	-54.9		10	21,891	-59.9		12	21,853	-65.7	
30	5	23,518	-54.8						10	23,612	-61.4	
20									7	26,141	-58.4	

Standard pressure surface (mb)	MIDLAND, TEX. (918 MB.)				NANTUCKET, MASS. (1010 MB.)				NASHVILLE, TENN. (998 MB.)				NOME, ALASKA (999 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	871	5.9	60	31	14	-1.4	70	31	177	3.4	72	30	7	-9.9	79
1000	31	156			31	90	-1.0	64	31	164	1.3		30	6	-11.1	
950	31	585			31	498	-3.4	64	31	579	2.3	60	30	399	-8.2	69
900	31	1,030	8.1	52	31	924	-5.0	61	31	1,015	.7	58	30	811	-9.0	68
850	31	1,500	6.8	45	31	1,372	-6.1	55	31	1,473	-.4	54	30	1,253	-10.3	65
800	31	1,996	4.7	40	31	1,845	-7.6	45	31	1,957	-1.6	50	30	1,717	-13.1	64
750	31	2,525	2.3	36	31	2,350	-9.6	40	31	2,477	-2.8	43	30	2,209	-15.9	60
700	31	3,074	-.8	36	31	2,876	-11.4	38	31	3,014	-5.2	40	30	2,722	-18.9	54
650	31	3,665	-4.3	36	31	3,448	-13.9		31	3,600	-8.3	37	30	3,276	-22.4	50
600	31	4,288	-8.4	36	31	4,045	-17.4	36	31	4,211	-11.4	35	30	3,853	-26.4	49
550	31	4,957	-12.6	33	31	4,695	-21.4	38	31	4,882	-15.4		30	4,481	-30.9	48
500	31	5,678	-17.7	35	31	5,389	-25.5		31	5,586	-19.9	36	30	5,146	-35.7	50
450	31	6,464	-23.0		31	6,150	-30.4		31	6,369	-25.0		30	5,873	-41.0	
400	31	7,311	-29.1	41	31	6,974	-35.6		31	7,206	-30.6		30	6,661	-46.4	
350	30	8,260	-35.1		31	7,892	-40.9		30	8,139	-36.3		30	7,537	-51.1	
300	30	9,317	-42.8		31	8,929	-45.5		30	9,192	-43.3		30	8,531	-53.5	
250	30	10,522	-51.0		31	10,133	-48.6		30	10,400	-49.6		30	9,704	-52.3	
200	30	11,953	-56.1		30	11,603	-49.3		30	11,847	-52.7		30	11,157	-49.0	
175	30	12,798	-57.6		30	12,477	-49.7		30	12,707	-53.5		30	12,034	-48.1	
150	30	13,769	-58.6		28	13,479	-51.1		30	13,695	-55.0		27	13,039	-47.1	
125	28	14,906	-61.3		28	14,660	-52.8		29	14,849	-58.6		27	14,245	-46.8	
100	26	16,265	-65.5		25	16,091	-56.2		28	16,246	-62.1		26	15,725	-46.9	
80	24	17,607	-68.3		24	17,498	-58.3		22	17,605	-63.9		25	17,197	-47.1	
60	14	19,325	-66.9		23	19,297	-59.6		15	19,372	-63.9		23	19,110	-48.9	
50	12	20,433	-65.7		20	20,432	-59.3		11	20,497	-63.1		22	20,304	-50.2	
40	8	21,793	-64.2		15	21,835	-59.7		9	21,875	-61.6		22	21,755	-51.5	
30	5	23,555	-61.8		6	23,650	-59.8		5	23,656	-60.7		17	23,609	-52.4	

Standard pressure surface (mb)	NORTHWAY, ALASKA (944 MB.)				NORTH PLATTE, NEBR. (916 MB.)				OAKLAND, CALIF. (1020 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	524	-24.2	74	31	848	-6.6	82	31	6	7.4	82
1000	31	101			31	156			31	167	8.6	66
950	31	479	-22.4		31	566			31	593	7.1	60
900	31	880	-15.0	72	31	989	-4.3	73	31	1,033	5.3	55
850	31	1,316	-9.6	67	31	1,441	-3.0	59	31	1,499	3.5	52
800	31	1,786	-8.5	57	31	1,920	-4.2	53	31	1,988	1.0	46
750	31	2,290	-11.0	53	31	2,429	-6.8	48	31	2,511	-2.0	44
700	31	2,810	-14.4	50	31	2,962	-9.9	45	31	3,050	-5.2	41
650	31	3,375	-18.2	49	31	3,534	-13.2	43	31	3,634	-8.9	38
600	30	3,961	-22.1	46	31	4,135	-16.9	43	31	4,243	-13.1	36
550	30	4,598	-26.7	47	31	4,784	-21.5	46	31	4,901	-17.5	36
500	30	5,275	-31.9	48	31	5,477	-26.1	46	31	5,607	-22.7	37
450	30	6,017	-37.7		31	6,237	-31.6		31	6,377	-28.3	37
400	30	6,813	-43.5		31	7,054	-37.5		30	7,210	-34.1	
350	30	7,699	-48.9		31	7,962	-43.9		29	8,126	-41.1	
300	29	8,698	-52.4		31	8,982	-49.4		26	9,147	-48.2	
250	29	9,872	-52.2		30	10,163	-53.9		23	10,355	-53.6	
200	29	11,325	-49.2		30	11,591	-53.7		17	11,782	-54.2	
175	29	12,202	-48.3		30	12,451	-53.1		16	12,627	-53.9	
150	29	13,217	-47.7		30	13,441	-54.3		16	13,614	-55.7	
125	29	14,419	-48.1		30	14,605	-55.9		10	14,809	-59.1	
100	28	15,887	-48.5		30	16,013	-58.6					
80	28	17,349	-50.2		29	17,403	-60.5					
60	24	19,221	-52.7		27	19,193	-61.5					
50	21	20,417	-53.6		24	20,326	-61.5					
40	18	21,835	-54.2		21	21,706	-61.4					
30	8	23,724	-53.3		13	23,488	-60.5					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb)	OKLAHOMA CITY, OKLA. (973 MB.)				OMAHA, NEBR. (969 MB.)				PHOENIX, ARIZ. (978 MB.)				PITTSBURGH, PA. (975 MB.)				PORTLAND, ME. (1009 MB.)				RAPID CITY, S. DAK. (902 MB.)				ST. CLOUD, MINN. (977 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	391	3.2	75	31	403	- 5.5	78	31	341	9.7	67	31	353	2.8	73	30	20	- 6.1	69	31	966	4.7	65	31	316	11.7	76
1000---	31	164			31	152			31	157			31	148			30	90	- 5.5	62	31	40			31	139		
950----	31	583	4.9	61	31	560	- 3.9	70	31	590	11.3	48	31	560	- 3.5	70	30	496	- 6.5	59	31	552			31	538	-10.6	71
900----	31	1,023	4.1	55	31	984	- 3.9	66	31	1,035	8.6	46	31	982	- 5.8	68	30	913	- 7.6	60	31	982	4.7	64	31	956	-10.1	67
850----	31	1,486	2.4	51	31	1,435	- 3.9	56	31	1,505	5.4	46	31	1,428	- 7.3	63	30	1,357	- 8.7	56	31	1,434	2.7	54	31	1,391	- 9.7	58
800----	31	1,975	1.1	42	31	1,912	- 5.3	52	31	1,997	2.1	48	31	1,899	- 8.3	54	30	1,825	-10.1	51	31	1,913	1.7	51	31	1,856	-10.3	56
750----	31	2,496	- .8	38	31	2,425	- 7.3	49	31	2,524	- 1.0	45	31	2,406	- 9.8	50	30	2,326	-12.3	49	31	2,421	[illegible]	53	31	2,360	-12.0	51
700----	31	3,040	- 3.8	38	31	2,952	- 9.3	48	31	3,062	- 3.9	42	31	2,929	-12.0	50	30	2,845	-14.7	48	31	2,951	-10.8	49	31	2,879	-14.2	52
650----	31	3,625	- 6.8	36	30	3,532	-12.4	45	31	3,652	- 7.1	36	31	3,500	-14.7	47	30	3,412	-17.5	46	31	3,511	-14.2	49	31	3,445	-16.5	[illegible]
600----	31	4,241	-10.4	38	30	4,129	-16.2	43	31	4,263	-10.8	36	31	4,095	-18.0	50	30	4,000	-20.4	43	31	4,120	-17.7	50	31	4,036	-19.9	51
550----	31	4,911	-14.4	38	30	4,783	-20.5	43	31	4,932	-15.1	36	31	4,745	-21.6	54	30	4,641	-24.2	41	31	4,768	-22.1	49	31	4,681	-23.9	51
500----	31	5,622	-19.4	40	30	5,476	-25.3	41	30	5,642	-20.1		31	5,436	-26.1	52	30	5,328	-28.8		31	5,460	-26.9	47	31	5,366	-28.6	48
450----	31	6,406	-24.9	40	30	6,244	-30.6	42	30	6,426	-25.5		31	6,194	-31.3	46	30	6,081	-33.6		31	6,218	-32.2	47	30	6,121	-33.5	45
400----	31	7,242	-30.9	41	30	7,059	-36.3		30	7,258	-31.6		31	7,016	-36.3		30	6,892	-38.9		31	7,034	-37.8	49	30	6,932	-39.1	
350----	31	8,176	-37.7		30	7,973	-42.3		30	8,189	-38.1		31	7,931	-41.9		29	7,793	-43.8		30	7,936	-44.1		29	7,833	-45.4	
300----	31	9,222	-45.1		30	9,001	-48.0		30	9,234	-44.8		31	8,960	-47.7		28	8,822	-47.4		30	8,953	-50.2		29	8,847	-50.4	
250----	30	10,419	-51.6		28	10,170	-52.7		30	10,434	-51.5		31	10,151	-51.6		28	10,022	-48.5		30	10,131	-53.6		29	10,029	-51.7	
200----	30	11,856	-54.0		27	11,595	-51.5		30	11,870	-54.3		29	11,599	-51.1		28	11,489	-48.1		30	11,569	-51.7		28	11,480	-49.4	
175----	30	12,712	-54.4		27	12,462	-51.1		30	12,726	-54.4		29	12,467	-51.7		28	12,368	-48.6		30	12,437	-50.8		28	12,353	-49.7	
150----	29	13,699	-56.2		27	13,460	-52.3		27	13,711	-56.0		29	13,461	-53.7		27	13,374	-49.9		30	13,439	-51.0		27	13,352	-50.0	
125----	29	14,850	-58.9		26	14,629	-54.8		25	14,862	-59.4		24	14,613	-56.0		26	14,570	-51.5		27	14,628	-52.7		27	14,538	-51.8	
100----	28	16,231	-62.6		25	16,059	-57.0		24	16,247	-62.9		19	16,023	-59.7		24	16,012	-54.3		25	16,064	-55.1		25	15,989	-54.0	
80-----	25	17,608	-64.2		24	17,467	-59.5		19	17,611	-63.8		12	17,426	-59.4		24	17,435	-56.2		21	17,484	-57.2		24	17,405	-55.8	
60-----	16	19,358	-63.2		19	19,255	-60.8		15	19,367	-63.3		5	19,298	-61.5		20	19,264	-58.5		20	19,298	-58.5		20	19,230	-57.8	
50-----	13	20,472	-62.8		15	20,379	-61.2		11	20,488	-63.1						18	20,415	-59.2		15	20,452	-58.4		17	20,376	-58.3	
40-----	5	21,844	-62.0						6	21,889	-62.9						14	21,819	-58.6		11	21,860	-58.3		11	21,813	-57.8	

Standard pressure surface (mb)	SAN ANTONIO, TEX. (991 MB.)				SAN JUAN, P. R. (1015 MB.)				SANTA MARIA, CALIF. (1011 MB.)				S. STE. MARIE, MICH. (988 MB.)				SPOKANE, WASH. (934 MB.)				SWAN ISLAND, W. I. (1015 MB.)				TAMPA, FLA. (1019 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	243	11.6	60	31	19	23.2	77	31	74	7.8	78	31	221	- 7.8	80	31	722	2.4	89	31	10	24.4	77	31	7	13.6	85
1000---	31	164			31	145	22.9	73	31	163	9.2	73	31	125			31	176			31	140	24.0	76	31	169	15.0	76
950----	31	597	11.4	59	31	595	19.8	76	31	589	8.7	55	31	522	- 8.4	71	31	593			31	590	20.6	80	31	604	13.2	67
900----	31	1,046	10.1	54	31	1,055	16.3	79	31	1,034	6.6	48	31	942	-10.1	76	31	1,018	- 2.8	81	31	1,054	17.5	79	31	1,057	11.7	64
850----	31	1,519	8.1	53	31	1,540	13.7	73	31	1,500	4.1	47	31	1,380	-11.7	70	31	1,469	- 3.9	76	31	1,541	14.5	75	31	1,534	10.5	50
800----	31	2,019	6.8	46	31	2,049	12.2	50	31	1,991	1.6	44	31	1,843	-13.5	64	31	1,946	- 5.9	71	31	2,053	12.8	57	31	2,037	9.2	43
750----	31	2,558	4.5	41	31	2,600	11.2	29	31	2,513	- 1.2	36	31	2,338	-15.4	61	31	2,457	- 8.1	65	31	2,602	10.8	38	31	2,582	7.4	
700----	31	3,106	1.6		31	3,163	8.9		31	3,055	- 4.4	31	31	2,851	-17.2	55	31	2,983	-10.7	62	31	3,166	8.2		31	3,136	4.7	
650----	31	3,705	- 1.7		31	3,779	5.5		31	3,640	- 8.3	32	31	3,411	-19.9	51	31	3,557	-13.8	59	31	3,782	5.6		31	3,745	1.6	
600----	31	4,333	- 5.4		30	4,424	2.1		31	4,251	-12.5	32	30	3,992	-23.1	50	31	4,153	-17.4	59	31	4,425	2.2		31	4,377	- 1.8	
550----	31	5,013	- 9.6		30	5,121	- 2.3		31	4,910	-17.2		30	4,630	-26.9	53	31	4,805	-21.6	55	30	5,123	- 1.8		31	5,071	- 6.0	
500----	31	5,740	-14.6		30	5,870	- 7.4		31	5,617	-22.3		29	5,312	-30.9	55	31	5,494	-26.1	54	30	5,873	- 6.8		31	5,803	-10.8	
450----	31	6,542	-20.0	41	30	6,693	-13.0		31	6,388	-27.7		28	6,071	-35.5	57	30	6,261	-31.0	53	30	6,703	-12.2		31	6,616	-16.5	
400----	31	7,393	-26.1	41	30	7,569	-19.6		31	7,219	-34.0		25	6,876	-40.9		30	7,077	-37.1	56	30	7,578	-18.6		31	7,479	-23.2	[illegible]
350----	31	8,344	-32.8	42	30	8,544	-27.1		31	8,141	-40.2		13	7,823	-44.1		30	7,987	-43.7		30	8,558	-26.0		30	8,443	-30.4	
300----	31	9,410	-40.6		30	9,634	-34.8		30	9,172	-46.2		8	8,816	-46.7		30	9,006	-50.5		29	9,653	-34.6		30	9,520	-38.5	
250----	31	10,627	-49.1		30	10,881	-43.8		28	10,373	-51.7						30	10,178	-55.8		29	10,899	-44.1		29	10,748	-47.2	
200----	31	12,067	-55.6		30	12,345	-53.8		26	11,827	-54.8						28	11,595	-55.5		26	12,362	-53.0		29	12,194	-55.8	
175----	31	12,913	-57.9		30	13,189	-59.4		26	12,679	-55.1						27	12,449	-53.4		23	13,214	-58.2		27	13,033	-58.3	
150----	29	13,869	-59.2		30	14,138	-65.8		25	13,664	-56.1						21	13,445	-53.1		23	14,170	-64.1		26	13,972	-62.0	
125----	28	14,996	-63.5		30	15,226	-72.0		25	14,813	-59.5						10	14,648	-55.9		21	15,275	-71.2		25	15,107	-66.3	
100----	25	16,343	-67.8		30	16,518	-77.8		25	16,197	-62.8										16	16,568	-77.9		22	16,433	-71.7	
80-----	19	17,670	-69.2		27	17,778	-80.2		24	17,563	-64.3										[illegible]	17,836	-80.5		19	17,739	-73.9	
60-----	13	19,369	-67.1		18	19,438	-72.1		22	19,316	-63.8														17	19,434	-70.4	
50-----	10	20,474	-65.4		15	20,524	-68.5		18	20,441	-62.9														[illegible]	20,506	-67.5	
40-----	6	21,882	-62.0		13	21,873	-65.0		14	21,818	-61.5														11	20,859	-64.8	
30-----					8	23,640	-60.3																		5	23,668	-62.4	

Standard pressure surface (mb)	TATOOSH ISLAND, WASH. (1014 MB.)				VERACRUZ, MEXICO (1015 MB.)				WASHINGTON, D. C. (1007 MB.)				YAKUTAT, ALASKA (1006 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	31	6.2	84	29	13	22.8	77	31	88	0.4	57	31	12	0.1	92
1000---	30	143	5.7	80	29	145	21.8	77	31	142	.5	55	31	57	.5	87
950----	30	566	3.6	76	29	587	18.8	75	31	557	.6	52	31	472	- .2	82
900----	30	999	1.0	75	29	1,051	16.0	75	31	984	- 2.1	53	31	900	- 2.5	79
850----	30	1,457	- 1.3	71	29	1,536	13.3	74	31	1,436	- 3.6	48	31	1,352	- 5.1	75
800----	30	1,938	- 3.5	67	29	2,044	11.5	64	31	1,914	- 5.0	40	31	1,825	- 7.9	69
750----	30	2,450	- 5.8	57	29	2,589	9.0	53	31	2,426	- 6.3	37	31	2,329	-10.9	66
700----	30	2,984	- 8.7	50	29	3,152	7.0	35	31	2,957	- 8.4	36	31	2,851	-14.0	59
650----	30	3,558	-12.1	49	29	3,765	4.2		31	3,537	-10.9	37	31	3,417	-17.7	57
600----	30	4,162	-15.8	50	29	4,407	.6		30	4,135	-14.7	40	31	4,003	-21.5	55
550----	30	4,814	-20.2	52	29	5,104	- 3.3		30	4,794	-18.6	41	31	4,646	-25.8	53
500----	30	5,512	-24.8	53	28	5,848	- 8.3		30	5,493	-23.0	41	31	5,323	-30.6	54
450----	30	6,273	-30.3	51	28	6,669	-14.0		30	6,266	-28.2	41	31	6,068	-36.3	52
400----	30	7,097	-36.3	56	28	7,542	-20.2		29	7,086	-33.4		31	6,870	-41.7	
350----	30	8,008	-43.1		28	8,517	-27.6		29	8,011	-39.1		31	7,764	-46.4	
300----	28	9,028	-49.4		28	9,606	-36.0		29	9,052	-45.3		31	8,776	-51.1	
250----	28	10,204	-55.1		28	10,846	-46.0		29	10,252	-50.5		31	9,952	-52.9	
200----	25	11,616	-55.3		28	12,296	-56.0		28	11,692	-51.2		31	11,398	-49.6	
175----	25	12,470	-53.3		28	13,136	-60.1		27	12,564	-51.2		31	12,272	-49.3	
150----	25	13,465	-52.2		27	14,088	-64.7		27	13,560	-53.1		31	13,282	-49.1	
125----	24	14,634	-53.2		23	15,188	-69.9		26	14,719	-55.8		31	14,478	-48.8	
100----	22	16,065	-55.4		18	16,497	-77.4		23	16,143	-59.6		31	15,939	-49.6	
80-----	20	17,494	-56.6		11	17,764	-79.4		18	17,527	-61.8		29	17,391	-51.2	
60-----	16	19,313	-57.8		9	19,441	-71.4		15	19,309	-61.8		29	19,249	-53.2	
50-----	14	20,455	-58.1		7	20,523	-67.5		13	20,437	-60.7		28	20,423	-53.9	
40-----	11	21,839	-58.4						11	21,826	-60.5		20	21,886	-53.6	
30-----	6	23,692	-55.6						5	23,611	-59.6		9	23,713	-53.1	

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for September 1954

	DENVER, COLO. (834 MB.)				FT. WORTH, TEXAS (992 MB.)				OGDEN, UTAH (853 MB.)				RANTOUL, ILL. (989 MB.)				ROME, N. Y. (997 MB.)			
Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,661	18.4	44	30	178	27.6	45	30	1,450	18.4	38	30	227	19.5	68	30	146	12.7	82
1000---	30	64			30	109			30	58			30	128			30	127	11.1	
950----	30	526			30	568	27.7	39	30	520			30	576	21.7	54	30	559	13.1	79
900----	30	1,000			30	1,042	24.3	43	30	992			30	1,042	19.1	50	30	1,014	11.0	77
850----	30	1,493			30	1,540	20.3	48	30	1,481	19.4	36	30	1,530	16.3	46	30	1,489	8.5	76
800----	30	2,016	19.3	39	30	2,060	16.6	50	30	2,002	17.3	33	30	2,043	12.9	50	30	1,989	6.4	68
750----	30	2,572	15.5	42	30	2,611	12.8	52	30	2,551	13.3	34	30	2,589	9.8	49	30	2,519	3.5	66
700----	30	3,148	11.2	45	30	3,182	9.3	46	30	3,124	8.7	39	30	3,153	6.5	47	30	3,073	1.3	58
650----	30	3,765	6.4	49	30	3,800	6.0	35	30	3,734	3.7	45	30	3,761	2.6	46	30	3,668	- 2.0	53
600----	30	4,412	1.2	54	30	4,445	2.5		30	4,376	- 1.3	48	30	4,400	- 1.3	44	30	4,299	- 5.5	45
550----	30	5,104	- 4.3	59	30	5,146	- 1.7		30	5,063	- 6.4	47	30	5,088	- 5.1	35	30	4,979	- 9.0	39
500----	30	5,850	- 9.6	55	30	5,895	- 6.4		30	5,801	-11.6	41	30	5,831	- 9.8		30	5,709	-13.4	38
450----	30	6,668	-14.8	48	30	6,719	-11.9		30	6,607	-17.1		30	6,644	-15.6		30	6,509	-18.8	
400----	30	7,538	-20.9	39	30	7,602	-18.4		30	7,472	-23.5		30	7,515	-21.8		30	7,370	-24.9	
350----	30	8,509	-28.5		29	8,584	-26.0		30	8,434	-30.9		30	8,483	-29.2		30	8,326	-32.0	
300----	29	9,598	-37.1		29	9,680	-34.6		30	9,510	-38.7		30	9,565	-37.7		30	9,397	-39.7	
250----	29	10,832	-46.1		29	10,929	-43.9		30	10,739	-47.1		29	10,796	-47.1		30	10,620	-47.8	
200----	29	12,286	-54.5		29	12,391	-54.8		28	12,195	-54.2		29	12,242	-55.7		29	12,066	-54.2	
175----	29	13,131	-58.7		29	13,234	-60.2		28	13,046	-57.0		29	13,085	-59.1		27	12,912	-55.9	
150----	27	14,083	-62.6		28	14,181	-66.1		27	14,017	-60.0		27	14,044	-61.8		25	13,886	-57.9	
125----	27	15,195	-66.2		25	15,274	-70.9		26	15,149	-62.2		23	15,175	-64.3		24	15,032	-59.5	
100----	24	16,545	-66.3		16	16,581	-71.7		26	16,524	-63.0		17	16,532	-63.9		23	16,428	-59.9	
80-----	22	17,897	-64.4		12	17,907	-67.1		24	17,896	-61.3		14	17,897	-62.4		21	17,830	-59.2	
60-----	19	19,677	-59.6		9	19,668	-61.4		22	19,691	-58.6		7	19,708	-58.4		20	19,638	-56.2	
50-----	19	20,820	-57.8		8	20,796	-58.7		21	20,844	-57.0						19	20,793	-55.0	
40-----	19	22,237	-54.7		7	22,208	-56.8		16	22,269	-55.1						16	22,213	-53.2	
30-----	17	24,082	-51.6		6	24,034	-53.7		10	24,151	-52.2						15	24,066	-51.1	
20-----	9	26,734	-47.6						8	26,796	-48.5						5	26,726	-47.7	

* October data for the above Air Force stations will be included in the February 1955 issue of this publication.

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	220	3.1	31	312	0.8	31	296	3.8	27	298	3.2	28	125	0.6	29	126	3.4
500	--	---	----	--	---	----	--	---	----	--	---	----	--	---	----	29	156	3.4
1,000	28	228	3.3	--	---	----	--	---	----	25	283	5.0	28	70	.4	19	192	1.7
1,500	27	246	4.6	--	---	----	31	279	6.7	20	275	6.8	28	299	2.0	16	259	4.6
2,000	23	268	8.5	31	278	1.9	30	285	8.1	17	298	9.7	23	296	4.0	13	270	6.0
2,500	23	272	9.8	28	283	4.6	29	284	9.1	15	295	10.0	20	302	5.4	12	287	6.8
3,000	23	271	12.0	28	282	7.5	21	284	9.6	15	296	11.6	15	311	6.2	12	280	9.4
4,000	22	268	16.2	23	282	10.5	18	284	9.1	15	294	14.6	11	322	8.9	10	275	12.2
5,000	19	268	16.9	20	272	13.4	11	296	11.0	12	296	15.8	10	314	10.4	10	272	13.6
6,000	18	278	18.7	17	271	15.6												
8,000	10	303	22.7	12	269	24.1												
10,000																		
12,000																		
14,000																		

Altitude (meters) m.s.l.	* Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)			Ely, Nev. (1,910 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	256	2.8	31	334	1.9	27	275	1.6	26	233	2.4	31	268	2.3	30	172	1.2
500	31	260	5.4	31	304	2.9	27	266	2.5	26	241	3.3	--	---	----	--	---	----
1,000	31	270	8.5	24	290	5.9	26	284	6.1	22	240	6.2	-	---	----	--	---	----
1,500	31	279	9.2	19	297	7.9	24	291	10.3	15	276	8.2	31	265	2.7	-	---	--
2,000	30	287	10.9	13	299	9.5	24	285	13.5	14	282	10.7	30	257	3.8	30	177	.8
2,500	30	289	12.7	13	291	11.2	22	289	16.0	13	289	13.3	29	259	6.0	30	293	.6
3,000	30	292	14.3	13	289	12.5	20	285	15.9	11	289	15.0	25	262	9.3	28	303	2.1
4,000	28	294	19.0	10	284	12.3	19	283	20.0				24	259	12.1	21	301	5.9
5,000	28	291	23.7	10	282	15.6	16	282	24.8				23	263	16.6	20	309	7.4
6,000	27	291	28.5				11	276	27.6				21	258	18.5	18	317	9.9
8,000	25	285	36 3										18	264	23.3	13	324	12.2
10,000	22	279	37.4										10	270	26.0			
12,000	14	276	27.7															
14,000	11	272	24.6															

Altitude (meters) m.s.l.	Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Little Rock, Ark. (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	312	1.8	31	258	2.8	29	292	2.0	30	247	2.1	29	312	1.5	29	262	1.0
500	--	---	----	31	269	4.2	29	285	3.6	--	---	----	28	272	3.5	29	262	2.5
1,000	--	---	----	26	293	5.6	29	288	6.3	30	264	5.5	27	269	5.1	25	270	5.5
1,500	31	309	1.8	24	295	8.1	27	285	9.6	30	287	9.7	24	285	7.4	21	283	8.0
2,000	30	237	.9	20	292	9.2	22	297	12.5	25	293	10.5	21	295	9.4	20	286	11.3
2,500	29	221	3.0	19	296	11.1	22	291	15.9	21	291	9.6	20	293	11.0	20	282	14.0
3,000	28	250	4.9	18	295	12.8	21	289	20.1	16	296	10.4	17	286	12.6	19	278	16.3
4,000	23	293	8.1	15	297	17.7	16	293	21.4	11	294	10.3	16	279	16.1	17	275	20.2
5,000	21	306	12.3	14	301	22.2	12	293	25.5	10	303	13.2	11	279	18.4	12	272	25.2
6,000	14	330	16.8	11	300	26.8							11	280	22.7			
8,000	11	333	20.5															
10,000																		
12,000																		
14,000																		
16,000																		

Altitude (meters) m.s.l.	Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			** Oakland, Calif. (8 m.)			Omaha, Nebr. (306 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	27	134	0.4	31	171	0.9	28	244	2.2	28	248	2.0	30	174	0.6	30	282	2.0
500	27	132	.6	31	221	.8	28	260	3.2	28	229	3.1	30	34	1.3	30	287	2.7
1,000	26	164	2.0	31	268	2.1	23	285	5.3	23	236	5.1	30	323	2.5	27	291	4 5
1,500	22	186	2.2	29	292	3.8	20	292	6.6	23	254	7.7	29	315	3.6	24	296	7.9
2,000	19	227	1.3	26	286	5.6	19	284	8.8	20	277	11.6	29	315	4.3	23	289	11.3
2,500	18	257	3.0	25	281	7.6	17	279	11.7	19	280	15.0	28	333	4.2	21	289	12.5
3,000	17	283	5.2	25	275	10.2	15	276	13.5	18	278	17.6	28	327	4.7	20	288	13.6
4,000	11	304	5.1	24	275	12.1	13	277	18.0	15	283	21.4	27	309	6.5	19	287	18.0
5,000	10	334	7.7	24	265	15.1	13	273	21.5	13	284	25.2	26	314	8.3	18	285	21.9
6,000				24	266	17.6							25	315	8.3	16	287	25.1
8,000				11	269	19.5							22	315	9.3	12	291	29.3
10,000													19	294	15.7			
12,000													19	279	19.8			
14,000													18	275	18.5			
16,000													16	278	15.2			

Altitude (meters) m.s.l.	Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			St. Louis, Mo. (181 m.)			San Antonio, Tex. (240 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	232	0.3	31	330	2.8	28	289	2.1	29	270	2.1	28	167	1.2
500	31	210	.4	--	---	----	28	295	2.6	29	265	4.6	28	188	1.3
1,000	30	169	.8	31	328	3.0	26	303	4.8	24	264	6.0	27	202	2.8
1,500	28	160	1.2	30	305	6.5	24	306	6.9	21	272	8.7	25	221	3.6
2,000	28	225	.9	24	294	9.9	22	301	8.1	17	271	10.5	24	248	5.5
2,500	27	265	2.3	21	293	9.4	20	301	9.8	15	278	12.0	22	263	7.8
3,000	25	271	3.7	19	286	10.7	18	311	12.1	12	281	15.7	21	273	9.6
4,000	22	268	7.4	17	282	12.6	16	304	17.8	10	286	19.0	18	273	15.2
5,000	18	287	12.0	15	281	15.4	15	301	21.5	10	283	20.2	12	270	17.3
6,000	14	292	16.4	13	272	17.0	14	294	25.4				11	272	20.1
8,000							11	289	31.0						
10,000															
12,000															
14,000															
16,000															

Altitude (meters) m.s.l.	San Diego, Calif. (13 m.)			* Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			# Washington, D. C (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	257	2.9	31	254	0.5	17	175	1.3	31	288	3.3
500	30	267	1.4	31	270	2.2	--	---	----	31	295	5.3
1,000	27	5	.7	31	278	4.6	16	193	2.6	31	296	8.2
1,500	25	339	.9	31	289	6.1	11	234	3.4	31	298	11 0
2,000	25	349	1.7	31	287	7.5				31	299	14.3
2,500	20	356	3.4	31	288	9.3				31	294	16.8
3,000	20	346	5.0	31	285	10.9				31	290	19.4
4,000	17	321	5.3	31	283	14.8				31	287	23.8
5,000	17	319	6.7	31	287	18.4				31	282	28.7
6,000	16	310	10.4	31	285	21.7				31	280	34.4
8,000				24	282	28.5				30	275	47.4
10,000				12	289	21.0				24	275	52.5
12,000										16	272	40.1
14,000										16	269	34.6
16,000										15	266	30.7

* Rawin Data

** Rawin Data (Cont'd.)

18,000 m., 16 obs., 270 dir., 9.0 speed
20,000 m., 15 obs., 276 dir., 3.8 speed
22,000 m., 12 obs., 262 dir., 2.8 speed

# Rawin Data (Cont'd.)

18,000 m., 17 obs., 268 dir., 19.4 speed
20,000 m., 19 obs., 277 dir., 8.2 speed
22,000 m., 20 obs., 246 dir., 7.4 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Table 22

JANUARY 1955

Altitude (meters) m s l	Albuquerque, N. Mex. (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	13	1.2	31	198	0.3	28	137	3.5	31	54	3.2	31	336	1.2	31	114	1.9
500	-	---	----	31	111	2.6	28	154	6.2	31	84	4.6	--	---	----	30	154	5.3
1,000	--	--	-	31	138	6.6	27	160	5.8	31	87	3.7	30	299	5.4	30	174	4.4
1,500	--	---	---	31	138	8.3	25	211	3.9	30	97	2.5	29	298	8.5	30	219	3.6
2,000	31	292	2.6	31	155	9.4	25	226	5.0	30	110	1.2	29	301	10.4	30	239	4.4
2,500	31	276	5.3	31	164	9.2	25	228	5.7	30	164	1.0	28	301	11.7	30	245	6.7
3,000	31	279	6.3	31	173	9.9	23	236	5.0	30	177	1.4	29	297	12.8	30	247	8.6
4,000	30	278	9.4	29	173	10.2	22	260	6.3	29	206	2.1	26	291	15.0	30	259	11.1
5,000	27	271	11.7	28	190	10.5	21	276	10.0	29	208	3.9	23	285	15.0	30	257	15.0
6,000	20	284	15.2	26	205	11.9	18	265	10.1	29	209	4.9	21	287	17.5	30	254	18.5
8,000	14	288	18.6	19	208	13.4	13	271	11.8	29	221	7.5	15	272	21.1	22	254	21.4
10,000				17	199	11.8				29	218	9.9	11	278	17.6	14	262	24.9
12,000				16	202	12.1				28	224	11.1						
14,000				11	197	9.5				28	221	12.4						
16,000										27	223	12.1						
18,000										26	218	11.7						
20,000										25	220	11.5						
22,000										10	237	11.1						

Altitude (meters) m s l	Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)			Fairbanks, Alaska (135 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	239	2.6	31	12	2.6	31	302	4.3	31	229	0.6	31	261	1.1	31	315	0.2
500	29	271	5.6	30	312	1.0	30	326	5.8	29	283	4.4	31	253	3.3	29	104	3.7
1,000	29	280	7.9	30	278	3.3	30	341	5.8	27	274	7.5	31	268	7.0	29	129	4.9
1,500	29	281	9.1	30	261	5.8	30	338	5.7	28	279	10.1	31	274	8.9	30	161	4.6
2,000	30	284	10.0	29	265	6.8	30	328	5.1	28	277	12.7	31	278	11.5	29	188	5.1
2,500	30	284	12.6	29	267	8.7	30	307	5.7	30	272	14.6	31	277	13.4	30	196	6.6
3,000	29	282	14.0	29	263	10.9	30	281	5.7	29	270	16.6	30	277	15.2	30	198	7.3
4,000	29	283	18.2	28	263	14.3	28	274	5.8	23	270	20.5	30	276	19.3	29	208	8.2
5,000	28	288	19.6	29	263	17.9	27	258	7.2	15	271	24.0	31	275	22.4	28	199	10.9
6,000	26	289	27.1	23	264	21.1	27	245	8.9	10	292	26.8	31	275	26.6	28	203	12.5
8,000	25	287	33.5	15	270	20.6	23	228	8.9				29	273	33.8	24	205	13.8
10,000	20	282	36.0				21	260	7.8				27	274	40.8	18	200	10.1
12,000	15	279	29.6				19	276	11.1				26	270	40.7	15	205	9.1
14,000	13	280	26.4				18	293	9.7				26	266	32.0	15	225	6.9
16,000							16	292	9.0				26	270	24.5	14	222	8.9
18,000							14	288	5.0				26	268	13.3	13	217	8.9
20,000							12	348	1.8				17	264	7.3	11	234	3.2
22,000																		

Altitude (meters) m s l	Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	357	0.9	31	308	1.2	31	307	3.3	31	257	0.9	31	206	0.6	31	141	0.6
500	--	---	----	30	275	3.5	30	314	6.0	30	263	2.2	31	252	3.2	31	146	.8
1,000	--	---	----	30	281	5.5	30	301	7.5	30	280	3.2	31	265	5.2	31	158	1.9
1,500	30	356	.9	29	282	7.6	30	289	9.6	31	279	4.4	31	274	8.3	31	207	2.4
2,000	30	249	1.1	29	279	9.3	29	281	12.7	31	282	5.7	29	275	10.3	30	262	2.7
2,500	28	215	3.8	29	275	12.1	29	278	14.8	31	285	7.9	26	276	11.2	30	294	4.1
3,000	30	237	5.8	29	276	14.5	28	277	17.3	31	290	10.0	23	280	12.3	30	308	5.4
4,000	31	273	7.7	29	274	17.6	22	283	23.2	31	297	13.4	21	270	15.6	29	319	8.0
5,000	30	290	10.2	25	268	20.6	16	279	25.9	31	292	15.9	17	265	18.6	29	316	10.8
6,000	29	298	14.0	21	267	23.1				31	296	18.2	13	277	17.5	29	316	12.2
8,000	18	290	17.8	10	278	28.1				30	288	23.3				22	302	15.0
10,000	10	299	14.5							27	283	25.6				17	288	19.4
12,000										26	279	20.0						
14,000										26	284	15.8						
16,000										21	282	12.0						
18,000										17	294	6.5						
20,000										15	324	2.9						
22,000										10	54	1.9						

Altitude (meters) m s l	Miami, Fla. (4 m.)			Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)			Oakland, Calif. (8 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	346	0.8	31	183	1.4	31	321	5.0	31	260	1.2	30	62	4.2	31	108	0.3
500	31	25	.7	--	---	----	31	319	9.9	30	263	4.5	26	89	7.8	31	338	1.6
1,000	21	285	1.9	31	195	2.3	31	321	10.2	30	273	7.9	27	100	6.9	31	330	2.9
1,500	31	262	3.4	31	226	5.3	31	311	10.2	28	282	8.3	26	114	7.0	31	323	3.2
2,000	31	274	5.0	31	254	6.9	31	297	11.8	27	291	10.1	26	121	7.6	31	317	4.2
2,500	31	274	6.1	31	264	8.0	30	284	13.9	27	282	12.2	25	135	7.4	31	319	4.6
3,000	31	273	7.5	31	264	9.0	29	283	15.5	27	280	14.3	25	145	7.4	31	315	5.3
4,000	31	263	11.2	30	260	12.6	26	275	18.1	25	278	18.1	25	161	6.2	30	317	7.4
5,000	31	264	14.7	30	260	17.0	19	285	19.0	19	282	21.4	24	157	5.7	30	322	8.1
6,000	29	264	16.3	28	256	20.7	13	299	18.8	15	276	26.0	23	163	4.7	29	327	11.7
8,000	27	266	19.7	19	261	25.9							23	178	5.4	23	335	16.8
10,000	21	276	21.0										16	180	11.6	18	331	13.6
12,000	17	278	23.6										13	180	14.7	15	302	14.4
14,000	13	276	21.9										12	189	16.9	12	299	13.3
16,000	11	297	16.1										12	184	15.1			
18,000													11	186	16.8			
20,000																		
22,000																		

Altitude (meters) m s l	Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul, Is., Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	167	1.0	31	335	2.5	31	261	1.1	28	75	3.5	31	50	0.9	31	65	1.9
500	30	194	1.7	--	---	----	31	270	1.8	25	102	3.3	31	96	.8	31	57	4.1
1,000	30	242	4.5	31	325	2.6	31	277	4.4	25	129	3.2	31	218	2.5	31	58	3.8
1,500	29	267	5.6	31	302	7.9	31	295	5.9	25	145	3.9	31	237	5.2	31	47	3.6
2,000	30	275	7.9	31	311	10.5	30	293	6.5	25	154	4.6	31	238	7.6	31	43	2.9
2,500	30	279	9.2	30	310	12.2	30	294	8.5	24	154	4.3	31	245	9.0	31	34	3.0
3,000	30	270	10.5	29	305	11.9	30	296	10.0	25	172	4.6	30	248	9.9	31	54	2.6
4,000	29	267	13.8	28	290	12.6	31	292	13.9	26	188	6.3	30	249	13.5	31	14	2.7
5,000	28	265	16.2	27	286	13.1	29	286	14.9	25	190	7.1	29	249	18.4	30	6	2.5
6,000	26	261	20.0	26	280	16.9	25	286	17.1	25	197	7.9	26	255	18.7	30	336	4.2
8,000	21	256	26.9	19	260	20.8	19	283	19.0	24	195	10.3	21	258	23.3	30	315	6.8
10,000	13	265	32.4	13	267	18.8	16	283	21.1	25	203	12.9	13	259	29.7	30	297	16.2
12,000	11	266	38.1	12	251	22.2	13	278	15.8	25	200	13.0				30	278	21.8
14,000				10	245	18.8	12	276	14.9	25	204	13.8				29	279	18.3
16,000							12	281	10.6	24	200	15.1				28	304	8.3
18,000							13	279	6.1	25	189	12.9				25	61	3.2
20,000										24	189	10.6				14	63	1.0
22,000										22	200	8.5				12	268	1.9

Altitude (meters) m s l	Santa Maria Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is., Wash. (31 m.)			Washington, D. C. (88 m.)			Yakutat, Alaska (12 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	52	0.5	31	33	0.5	31	169	0.8	28	123	3.4	31	297	1.8	31	126	3.1
500	30	7	2.5	31	269	1.4	--	---	----	27	180	3.4	31	290	6.4	31	136	4.7
1,000	30	9	1.5	31	280	4.7	31	186	2.4	27	202	3.5	31	299	8.4	28	164	5.5
1,500	29	352	3.6	31	298	5.5	31	238	4.6	26	225	3.6	31	296	10.6	26	182	6.3
2,000	29	338	4.5	31	295	6.5	31	265	5.6	26	266	3.7	31	298	13.3	26	194	6.1
2,500	30	337	5.0	31	293	8.1	31	276	5.9	25	281	5.4	31	295	15.1	25	208	6.8
3,000	29	326	5.1	31	288	10.4	31	288	6.7	25	286	6.6	31	287	16.9	26	211	6.5
4,000	28	322	6.0	30	283	11.8	31	299	8.7	24	296	9.0	31	280	20.8	27	228	9.5
5,000	27	314	6.1	29	284	15.2	31	306	10.0	24	296	9.9	30	278	25.0	27	235	11.7
6,000	26	321	6.6	27	286	20.2	30	305	11.4	24	303	10.4	30	277	31.8	26	248	14.5
8,000	21	321	12.6	11	298	33.2	30	312	16.0	20	296	12.1	29	276	43.9	23	253	16.9
10,000	16	288	19.3				29	307	18.4	17	285	16.3	23	276	50.6	21	251	16.3
12,000	12	291	17.8				26	302	17.8	16	291	13.6	20	273	42.6	21	249	14.8
14,000	11	285	15.5				17	301	13.8	16	298	10.8	19	278	35.9	20	251	12.3
16,000	12	278	11.9							15	295	9.5	18	274	25.1	19	254	9.4
18,000	13	289	5.9							12	311	6.4	15	268	17.7	17	264	10.2
20,000	10	35	1.4							10	325	4.1	12	272	10.4	16	269	5.1
22,000																		

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N - 360°, E - 90°, S - 180°, W - 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for September 1954

Altitude (meters) m.s.l.	Denver, Colo. (1,661 m.)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul, Ill. (227 m.)			Rome, N. Y. (146 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	29	180	0.8	30	171	0.9	30	110	1.6	30	253	0.6	30	127	0.3
500	--	---	----	28	140	6.3	--	---	----	28	211	3.0	30	254	3.4
1,000	--	---	----	29	139	5.8	--	---	----	28	240	5.2	30	271	7.3
1,500	--	---	----	28	147	3.9	28	107	2.0	28	255	4.9	30	270	10.1
2,000	27	217	1.1	30	152	3.3	28	195	3.1	27	267	6.0	30	274	11.1
2,500	27	240	1.3	30	170	2.0	28	231	3.7	27	276	7.9	30	278	11.8
3,000	27	243	2.4	30	183	.7	27	238	5.4	28	286	9.3	29	277	13.3
4,000	28	258	4.4	30	307	1.1	28	234	6.0	30	292	11.0	29	277	15.4
5,000	27	255	6.4	30	334	1.7	27	244	8.4	30	292	11.6	29	276	17.3
6,000	27	268	7.8	30	349	1.8	28	249	10.9	30	289	14.2	29	274	19.6
8,000	28	267	12.2	30	290	2.0	29	248	17.0	29	288	17.5	28	273	25.6
10,000	27	266	15.7	30	293	3.6	28	249	20.7	30	288	22.2	27	276	30.7
12,000	28	270	20.4	30	299	6.1	26	248	25.8	30	286	23.7	25	280	28.9
14,000	27	264	18.0	28	302	7.1	24	254	22.0	27	291	23.3	19	283	23.8
16,000	25	268	11.5	17	273	4.9	23	254	12.9	19	296	15.2	18	281	14.7
18,000	20	265	5.7	11	266	1.6	22	280	5.3	13	299	8.9	17	275	8.6
20,000	18	315	.9				18	289	2.1				16	277	4.8
22,000	18	289	2.8				13	13	1.7				12	287	4.0
24,000	16	212	.6										11	270	5.4
26,000	11	255	3.0												

• October data for the above Air Force stations will be included in the February 1955 issue of this publication.

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. JANUARY 1955

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	**ALBUQUERQUE, N. MEX.								
	Air mass								
	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
Jan.									
1	----	----	----	----	Cloudy	----	----	----	----
2	----	----	----	----	Cloudy	----	----	----	----
3	----	----	----	----	Cloudy	----	----	----	----
4	0.85	----	----	----	------	----	----	----	----
5	----	----	1.14	----	------	1.29	1.16	1.06	0.96
6	.92	----	----	----	------	----	----	----	----
7	----	0.84	.99	0.88	------	1.07	1.01	.96	.88
8	----	----	----	----	Cloudy	----	----	----	----
9	.88	.94	1.08	1.21	------	----	----	.98	----
10	.89	1.00	1.04	1.26	------	1.22	1.14	1.03	.92
11	----	----	1.10	1.22	------	----	----	----	----
12	.99	1.02	1.15	1.29	------	1.30	----	----	----
13	----	----	----	----	Cloudy	----	----	----	----
14	----	----	----	----	Cloudy	----	----	----	----
15	----	----	----	----	Cloudy	----	----	----	----
16	----	----	----	----	Cloudy	----	----	----	----
17	----	----	----	----	------	----	.99	----	.79
18	1.01	1.10	1.14	1.26	------	1.19	.92	.91	.85
19	.94	1.04	1.17	1.30	------	1.29	1.14	1.00	.89
20	----	----	----	----	Cloudy	----	----	----	----
21	----	----	----	1.17	------	1.15	1.05	.96	.85
22	.89	.96	1.05	1.21	------	----	1.03	.94	.84
23	.89	.98	1.08	1.21	------	1.19	1.04	.93	.82
24	.86	.94	1.07	1.18	------	1.16	1.07	1.00	.86
25	----	.95	1.06	1.20	------	----	----	----	----
26	----	----	----	----	------	1.24	1.10	1.00	.89
27	.90	1.01	1.11	1.16	------	1.25	1.03	1.01	.94
28	.84	.97	1.07	1.25	------	1.16	1.12	1.04	.97
29	.94	1.05	1.15	1.29	------	----	1.15	1.07	.98
30	----	----	----	----	Cloudy	----	----	----	----
31	----	----	----	----	Cloudy	----	----	----	----
Averages	.91	.99	1.09	1.21	------	1.21	1.07	.99	.89
	WASHINGTON, D. C. (WBCO)								
	Air mass								
	4.95	3.96	2.97	1.98	*0.99	1.98	2.97	3.96	4.95
Jan.									
7	----	----	----	----	----	----	----	----	0.98
14	0.85	0.99	1.11	----	----	----	----	----	----
17	.74	.87	1.01	----	----	----	0.93	0.73	.56
20	.92	1.05	1.16	1.53	----	1.35	1.01	.89	.76
26	.77	1.00	1.18	1.32	----	----	----	----	----
Averages	.82	.98	1.12	1.42	----	1.35	.97	.81	.77

* Extrapolated
** Continual smoke and dust
% Hazy
# Smoke

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	MADISON, WISCONSIN								
	Air mass								
	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
Jan.									
6	1.04	1.16	1.29	----	----	----	1.28	1.14	1.05
8%	.75	.84	----	----	----	----	----	----	----
10	.99	1.09	1.21	----	----	----	1.18	1.03	.90
15	----	----	----	----	----	----	1.27	1.14	1.03
17	----	----	----	----	----	----	1.24	1.10	1.02
19	----	----	----	----	----	----	1.26	1.16	1.09
23%	----	----	----	----	----	----	.95	.77	.63
27	1.03	1.12	1.26	----	----	----	----	----	----
28	----	----	1.15	----	----	----	1.25	1.12	1.04
30	1.03	1.13	----	----	----	----	----	----	----
Averages	.97	1.07	1.25	----	----	----	1.20	1.09	.95
	LINCOLN, NEBR.								
	Air mass								
	4.77	3.81	2.86	1.91	*0.95	1.91	2.86	3.81	4.77
Jan.									
8	0.78	0.92	1.06	----	----	----	----	----	----
13	.89	1.08	1.13	----	----	----	1.15	1.02	0.92
21	.78	.96	1.11	----	----	----	----	----	----
22	.76	.89	1.06	----	----	----	----	----	----
25	.96	1.06	1.20	1.31	----	1.31	----	----	----
26	----	----	----	----	----	1.33	1.18	1.11	1.02
28	.89	1.02	1.20	1.37	----	1.37	1.22	1.04	----
Averages	.84	.99	1.13	(1.34)	----	1.34	1.18	1.06	(.97)
	BLUE HILL, MASS.								
	Air mass								
	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
Jan.									
3	----	----	1.23	----	----	----	1.27	1.15	1.03
5	0.98	1.10	1.15	----	----	----	1.30	1.15	1.08
8	1.08	1.18	----	----	----	----	1.29	----	----
9	1.05	1.15	1.27	----	----	----	----	----	----
10	----	----	----	----	----	----	1.21	1.09	.99
14	1.05	1.15	1.28	----	----	----	1.26	1.15	1.05
17	.70	.85	.95	----	----	----	1.03	.93	.83#
18	.91	1.03	1.16	----	----	----	1.21	1.09	1.01
20	----	----	----	----	----	----	1.22	1.10	1.00
21	1.08	1.21	1.33	----	----	----	----	----	----
24	----	----	----	----	----	----	.95	.81	.71
29	----	----	----	----	----	----	1.03	.86	.72
Averages	.99	1.10	1.20	----	----	----	1.18	1.04	.94

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of Tables 30 and 31 and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the Monthly Weather Review, vol. 72, No. 1, January 1944, p. 43. A list of pyrheliometric stations is given on page 45 of that issue. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

JANUARY 1955

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	37	10	38	39	39	8	36	30	41	40	44	31	45	36	48	41	35	44	39	45	47	49	41	43
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	44	32	40	42	43	45	52	42	47	53	54	65	59	89	80	64								

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	141	4	110	49	157	10	60	76	169	171	156	33	119	42	175	124	55	158	154	175	114	124	186	138
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	50	37	97	133	90	80	181	96	164	133	204	64	60	206	240	153								

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	390	6	451	163	495	5	82	227	469	462	509	25	209	41	552	324	--	501	450	512	336	472	519	(465)
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	208	84	375	264	347	341	476	299	470	302	522	83	55	556	584	367								

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	121	5	171	112	169	9	57	92	141	106	191	39	67	47	203	114	39	189	175	191	162	54	127	134
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	132	84	180	78	172	176	137	137	186	125	228	93	57	250	274	173								

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	70	11	48	74	31	7	74	45	26	28	32	60	90	65	36	48	64	38	48	38	101	45	40	53
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	71	51	71	81	63	73	54	67	51	103	75	98	86	70	40	75								

Note: Langley is the unit used to denote one gram calorie per square centimeter.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JANUARY 1955

	Aklavik, MacKenzie	Albuquerque, N.Mex.	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Columbia, Mo.	Davis, Calif.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nevada	Lemont, Ill.	Lincoln, Nebr.
1955																																						
Jan. 1----	---	263	---	81	24	---	8	157	161	43	---	349	660	170	109	212	212	52	197	58	361	3	(401)	47	---	82	125	43	28	65	16	263	194	194	210	123	18	215
Jan. 2----	---	107	---	143	298	---	15	154	14	189	---	184	477	50	316	225	231	191	22	125	121	3	147	181	---	52	(101)	259	322	243	188	322	54	126	178	72	138	187
Jan. 3----	---	141	---	165	292	---	50	83	182	213	---	385	617	89	329	33	215	40	203	73	152	4	122	107	---	234	186	234	335	331	77	271	114	169	219	221	36	78
Jan. 4----	---	211	---	25	242	---	42	170	108	164	---	276	---	99	304	17	81	68	85	109	231	3	190	211	---	157	187	203	298	224	23	233	20	219	51	299	36	50
Jan. 5----	---	(337)	---	82	272	---	46	176	190	120	---	344	---	206	310	18	226	19	175	95	380	5	297	82	---	241	187	58	323	264	35	216	162	192	264	258	19	19
Jan. 6----	---	350	---	70	141	---	33	160	15	116	---	150	496	94	331	240	237	105	22	61	378	2	423	98	---	275	186	178	112	287	105	67	10	356	310	231	229	212
Jan. 7----	---	334	---	136	327	---	15	171	86	87	---	88	538	58	348	260	235	111	112	103	265	7	(102)	110	---	202	161	282	359	327	224	---	128	238	322	150	229	194
Averages-----	---	(249)	---	100	228	---	30	153	108	133	---	254	558	109	292	143	205	84	117	89	270	4	(240)	120	---	177	(162)	180	254	249	95	229	97	213	222	193	101	136
Departures---	---	---	---	---	---	---	---	---	-17	---	---	---	---	---	---	---	40	4	0	---	---	-3	---	-39	---	---	---	---	---	---	---	---	-1	---	---	---	---	-34
Jan. 8----	---	241	---	26	227	---	12	78	201	124	---	275	549	93	309	143	225	169	223	85	185	7	(75)	132	---	294	99	239	277	341	192	339	118	193	276	311	216	231
Jan. 9----	---	333	---	162	94	---	32	79	192	158	---	234	292	61	261	108	23	12	219	139	263	8	108	179	---	325	111	142	125	103	94	---	41	34	162	317	39	195
Jan. 10----	---	372	---	134	34	---	20	128	203	131	---	346	350	78	71	48	94	50	221	143	(382)	12	(204)	140	---	161	126	64	32	207	34	139	100	198	276	53	173	196
Jan. 11----	1	256	---	86	141	---	18	69	70	184	---	269	412	88	132	177	218	181	74	107	304	5	320	209	---	202	191	96	247	73	222	351	208	328	150	325	148	33
Jan. 12----	T	(352)	---	63	272	---	25	175	141	206	---	120	359	200	294	83	98	61	127	76	323	12	293	180	---	302	137	139	284	242	24	349	126	82	233	338	50	176
Jan. 13----	T	326	---	94	334	---	21	147	74	128	---	49	579	177	347	272	40	213	55	61	224	8	(369)	132	---	209	114	274	371	---	133	309	132	393	251	327	142	227
Jan. 14----	T	125	---	96	348	---	21	77	214	203	---	265	648	129	343	138	169	112	235	85	161	8	58	34	---	275	208	221	382	327	102	---	153	324	238	344	80	175
Averages-----	---	(286)	---	95	207	---	21	108	156	162	---	222	455	118	251	138	124	114	165	100	(263)	9	(204)	144	---	253	141	168	245	216	114	297	125	222	226	288	121	176
Departures---	---	---	---	---	---	---	---	---	5	---	---	---	---	---	---	---	-52	18	19	---	---	-1	---	-24	---	---	---	---	---	---	---	---	11	---	---	---	---	-1
Jan. 15----	T	191	312	21	71	---	32	197	74	66	---	148	465	177	128	284	16	49	89	67	294	17	179	60	---	278	92	148	41	119	262	327	70	34	230	294	262	236
Jan. 16----	2	252	84	28	122	---	27	---	210	170	---	438	505	92	27	85	210	192	232	68	---	19	100	---	---	113	129	169	78	(131)	222	210	155	113	135	297	190	208
Jan. 17----	2	163	110	19	346	---	24	183	199	187	---	355	138	87	339	99	49	233	219	31	---	13	92	167	---	287	199	297	387	363	96	338	176	148	191	350	197	31
Jan. 18----	T	366	19	66	99	---	23	164	216	79	---	427	286	133	193	43	95	41	(232)	55	409	13	102	41	---	215	161	255	72	353	177	76	118	112	262	152	61	106
Jan. 19----	T	376	298	139	136	---	37	(159)	172	139	199	450	402	82	---	248	113	80	188	116	332	6	(122)	246	136	161	196	132	152	51	93	371	127	154	238	353	74	246
Jan. 20----	6	284	399	62	354	---	43	132	217	119	219	273	413	118	---	115	199	236	190	168	352	12	65	273	352	241	89	334	389	378	255	371	227	246	245	321	265	25
Jan. 21----	6	383	75	34	121	---	27	125	233	172	234	419	596	230	---	224	205	34	243	120	419	11	380	244	180	305	145	205	138	344	283	372	179	255	288	369	33	232
Averages-----	2	288	185	53	178	---	30	(160)	189	133	---	359	401	131	172	157	127	124	(199)	89	361	13	(148)	172	---	229	145	220	180	(248)	198	295	151	152	227	305	155	155
Departures---	---	---	---	---	---	---	---	---	31	---	---	---	---	---	---	---	-65	15	50	---	---	-1	---	-25	---	---	---	---	---	---	---	---	34	---	---	---	---	-43
Jan. 22----	3	390	(350)	59	246	*	44	131	135	147	---	(128)	644	128	203	231	245	137	50	56	420	38	228	294	44	308	157	280	298	129	131	353	174	249	272	352	222	254
Jan. 23----	2	386	35	76	38	---	40	84	76	151	---	68	641	198	52	283	257	208	40	112	417	20	384	306	16	291	129	68	33	60	234	---	254	158	245	351	287	263
Jan. 24----	13	389	54	43	185	1	54	114	181	157	---	(463)	---	---	61	80	145	186	195	143	409	16	390	187	6	321	101	185	202	55	170	---	249	410	264	274	173	149
Jan. 25----	3	348	424	129	329	1	42	198	163	248	145	461	619	189	399	321	250	111	217	71	373	20	389	97	394	221	73	228	441	375	186	322	130	425	216	254	185	264
Jan. 26----	7	391	417	197	634	1	59	272	184	275	202	394	635	189	390	264	93	110	197	87	302	22	238	159	412	329	170	273	423	397	147	401	240	384	265	375	185	246
Jan. 27----	8	(393)	426	215	107	2	47	126	179	275	182	423	680	81	170	161	239	287	220	190	421	29	(402)	109	313	348	74	163	184	260	318	390	256	106	208	373	324	121
Jan. 28----	4	408	381	138	305	6	68	157	243	208	243	263	672	248	325	313	70	204	267	66	439	---	381	74	338	355	217	266	419	348	133	412	205	391	270	384	329	289
Averages-----	6	(387)	(298)	122	263	2	51	155	166	209	193	(314)	648	172	229	236	186	178	169	103	397	24	(344)	175	208	310	132	209	286	232	188	375	216	303	249	338	244	227
Departures---	---	---	---	---	---	---	---	---	3	---	67	---	---	---	---	---	-24	64	32	---	---	-1	---	-36	---	---	---	---	---	---	---	---	84	---	---	---	---	10
Jan. 29----	12	415	438	138	220	10	27	121	236	145	230	468	733	236	381	102	41	242	269	67	447	46	(404)	130	355	341	74	327	468	165	208	314	241	451	206	356	315	189
Jan. 30----	21	325	435	110	219	4	65	258	194	122	208	346	686	237	396	298	60	303	209	165	410	31	391	83	403	226	130	310	466	351	314	356	153	317	159	339	345	258
Jan. 31----	18	(274)	434	98	152	14	---	137	234	159	253	356	680	252	348	296	136	92	282	78	366	43	253	176	390	80	152	289	290	411	178	395	221	201	43	375	254	240
Feb. 1----	17	412	273	150	60	13	52	65	103	239	93	362	699	280	(279)	20	240	131	88	38	443	---	391	342	330	157	114	295	116	364	29	418	154	263	116	379	50	125
Feb. 2----	16	421	414	119	198	19	43	194	93	299	109	288	688	273	273	71	315	264	82	184	403	50	336	355	278	261	43	207	413	333	214	319	247	413	93	189	225	102
Feb. 3----	10	(416)	343	161	94	7	63	123	281	303	274	216	697	158	261	273	320	330	211	109	460	42	59	317	302	268	222	344	226	335	255	387	162	253	185	387	210	66
Feb. 4----	10	(433)	375	92	261	10	93	243	290	203	292	438	677	(238)	435	41	275	252	294	72	476	24	96	328	234	299	213	375	508	280	229	437	330	188	326	413	162	106
Averages-----	15	(385)	387	124	172	11	57	163	204	210	209	353	694	(239)	(339)	157	198	231	205	102	429	40	(276)	247	327	233	136	307	355	320	204	375	215	298	161	348	223	155
Departures---	---	---	---	---	---	---	---	---	-2	---	37	---	---	---	---	---	-1	55	13	---	---	-2	---	33	---	---	---	---	---	---	---	---	33	---	---	---	---	-61

Accumulated Departures January 1 to February 4, 1955

	Aklavik, MacKenzie	Albuquerque, N.Mex.	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Columbia, Mo.	Davis, Calif.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nevada	Lemont, Ill.	Lincoln, Nebr.
	---	---	---	---	---	---	---	---	140	---	---	---	---	---	---	---	700	1092	798	---	---	-56	---	-637	---	---	---	---	---	---	---	---	1127	---	---	---	---	-903

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Sun below horizon prior to 24th.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued

1955	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Prosser 4 NE, Wash.	Rapid City, S. Dak.
Jan. 1	221	30	31	76	4	90	281	324	57	211	178	31	349	(98)	312	108	127	201
Jan. 2	257	278	258	112	12	193	269	109	270	25	90	269	195	40	106	17	77	195
Jan. 3	68	176	176	58	13	210	372	80	231	220	210	230	136	(143)	91	180	153	137
Jan. 4	154	266	248	47	9	37	398	119	71	147	182	91	144	(200)	275	117	56	55
Jan. 5	99	166	172	32	12	122	378	340	150	227	206	154	258	84	327	204	79	147
Jan. 6	114	69	78	184	16	192	406	344	93	10	31	153	163	(92)	310	30	44	187
Jan. 7	256	283	246	161	8	136	339	234	276	165	246	318	34	212	94	92	42	213
Averages	167	181	173	96	11	140	349	221	164	144	163	178	183	(124)	217	107	83	162
Departures	---	---	---	-31	---	---	---	---	40	16	47	---	---	---	---	---	---	---
Jan. 8	146	297	284	132	6	87	372	10	116	224	232	120	21	(204)	254	208	51	151
Jan. 9	148	286	247	93	4	79	---	59	91	224	87	49	192	(163)	334	217	48	146
Jan. 10	86	190	193	192	9	59	417	355	42	237	228	46	355	209	---	---	174	115
Jan. 11	165	322	304	128	20	108	374	302	70	87	169	69	139	238	178	130	103	95
Jan. 12	237	325	308	(54)	18	143	382	269	175	171	124	221	347	120	361	169	100	230
Jan. 13	288	332	308	(123)	29	142	418	178	273	53	48	292	331	(174)	189	191	138	203
Jan. 14	68	292	289	99	37	150	432	92	241	261	276	247	124	224	112	223	156	219
Averages	163	292	276	(117)	17	110	399	181	144	180	166	149	216	(190)	238	189	110	166
Departures	---	---	---	-19	---	---	---	---	7	27	37	---	---	---	---	---	---	---
Jan. 15	204	145	178	168	31	86	419	70	149	74	71	61	219	(80)	157	150	103	207
Jan. 16	285	222	141	160	37	116	414	351	267	256	260	246	104	(208)	112	220	110	151
Jan. 17	305	298	299	214	52	97	311	272	309	241	231	333	116	(207)	380	171	124	123
Jan. 18	31	53	29	127	22	197	397	442	88	260	276	156	125	(202)	383	214	109	259
Jan. 19	189	329	284	220	11	148	449	288	146	201	218	82	142	228	159	215	233	220
Jan. 20	74	316	317	168	47	106	394	348	219	242	282	259	79	246	382	198	175	235
Jan. 21	277	327	305	77	14	63	197	313	22	261	243	60	346	(134)	389	249	192	197
Averages	195	242	222	162	31	116	369	298	171	219	226	171	161	(186)	280	202	149	199
Departures	---	---	---	10	---	---	---	---	19	59	96	---	---	---	---	---	---	---
Jan. 22	274	344	332	202	35	83	277	250	334	99	178	197	394	71	408	96	69	234
Jan. 23	296	326	318	231	47	217	398	316	116	126	191	91	394	193	399	94	80	150
Jan. 24	258	309	312	183	28	119	198	321	297	216	215	278	263	206	402	218	46	258
Jan. 25	295	203	241	158	30	190	476	302	347	178	121	353	396	124	291	155	100	183
Jan. 26	144	330	319	199	34	277	470	173	307	235	278	359	290	239	390	181	61	26
Jan. 27	309	353	375	228	34	278	241	348	312	253	309	221	394	213	413	213	55	196
Jan. 28	277	366	364	253	74	230	478	329	147	285	161	185	420	---	427	276	37	273
Averages	265	319	323	208	40	199	363	291	266	199	208	240	364	177	390	176	64	188
Departures	---	---	---	-31	---	---	---	---	97	42	55	---	---	---	---	---	---	---
Jan. 29	303	324	329	253	63	204	83	389	271	262	252	346	391	---	431	257	110	135
Jan. 30	312	327	326	255	82	54	523	377	301	250	178	312	369	279	193	211	74	247
Jan. 31	247	---	142	155	62	55	470	242	236	297	265	257	234	(236)	421	289	60	179
Feb. 1	225	344	300	150	21	125	480	389	166	117	83	139	140	256	425	138	115	29
Feb. 2	251	389	(385)	241	28	237	404	258	31	79	86	78	187	(291)	381	254	227	143
Feb. 3	106	410	394	285	70	242	405	321	288	321	339	328	102	269	451	292	269	141
Feb. 4	20	398	373	95	25	92	271	397	125	333	345	308	78	303	436	302	141	260
Averages	209	365	(321)	205	50	144	377	339	202	237	221	253	215	(269)	391	249	142	162
Departures	---	---	---	15	---	---	---	---	16	31	48	---	---	---	---	---	---	---

1955	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	State College, Pa.	Stillwater, Okla.	Spokane, Wash.	Swan Island, W. I.	Tampa, Fla.	Toronto, Ontario	Upton, N. Y.	Wake Island, Pacific Area	Winnipeg, Manitoba
Jan. 1	139	92	154	---	67	49	232	185	38	51	50	263	148	483	353	129	226	432	109
Jan. 2	79	261	73	---	299	32	61	30	67	68	117	206	130	412	346	115	58	373	69
Jan. 3	140	188	153	---	259	35	233	179	87	135	147	43	147	431	347	53	225	435	163
Jan. 4	65	206	149	---	292	173	151	149	23	33	127	30	186	483	386	183	178	461	146
Jan. 5	70	215	144	---	229	38	239	157	11	45	56	140	125	468	354	49	229	445	182
Jan. 6	56	37	222	---	140	151	18	21	28	41	37	293	115	440	322	107	32	418	137
Jan. 7	37	270	194	---	312	120	260	183	42	59	216	86	145	430	343	150	243	451	137
Averages	84	181	156	---	228	86	170	129	42	62	107	152	142	450	350	112	170	431	135
Departures	---	-66	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Jan. 8	51	325	110	---	332	71	258	173	11	15	149	86	127	490	383	45	242	469	81
Jan. 9	64	304	113	---	172	67	142	100	76	141	28	228	146	483	281	19	147	236	75
Jan. 10	110	141	84	---	287	115	232	196	26	28	63	263	146	402	395	108	227	383	167
Jan. 11	63	327	56	---	328	99	140	201	13	29	217	46	161	365	415	146	163	359	94
Jan. 12	55	257	164	---	336	82	189	108	39	67	68	281	144	424	330	88	193	437	173
Jan. 13	132	308	219	---	---	216	84	127	32	46	111	271	236	346	422	196	70	322	91
Jan. 14	146	308	134	---	327	69	283	203	56	71	152	78	148	472	427	178	260	391	77
Averages	89	281	126	---	297	103	190	158	36	57	113	179	158	426	379	111	186	371	108
Departures	---	32	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Jan. 15	70	103	220	(88)	(167)	64	58	54	44	50	81	263	148	463	386	56	68	439	138
Jan. 16	64	97	230	(432)	229	173	267	144	38	34	212	68	173	483	321	153	249	461	192
Jan. 17	105	328	213	---	229	181	254	171	37	52	160	22	173	438	372	217	234	330	193
Jan. 18	104	24	153	---	202	199	285	190	140	---	94	85	171	487	317	152	261	349	104
Jan. 19	189	203	242	411	312	202	215	172	92	116	192	97	200	---	193	206	207	299	159
Jan. 20	194	285	74	138	354	211	(279)	216	72	66	248	20	194	469	418	243	272	257	---
Jan. 21	170	349	219	424	350	45	291	148	94	108	133	310	191	462	281	113	254	409	---
Averages	128	198	193	(299)	(263)	154	(236)	156	74	71	160	123	179	467	327	163	221	363	153
Departures	---	-71	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Jan. 22	62	373	188	156	346	---	153	107	12	48	179	331	138	465	214	180	146	447	147
Jan. 23	71	362	222	317	(355)	---	177	156	51	40	75	344	162	469	179	134	177	381	131
Jan. 24	52	348	233	429	306	---	237	192	33	35	190	209	112	453	57	175	224	462	97
Jan. 25	125	208	250	419	346	101	199	182	75	---	74	326	182	110	463	69	---	422	98
Jan. 26	31	204	261	297	366	155	287	172	149	166	219	293	234	415	449	183	286	480	216
Jan. 27	41	399	179	365	389	229	291	178	104	66	267	316	148	442	352	271	(284)	396	139
Jan. 28	41	408	287	386	387	240	296	187	38	57	124	360	144	366	389	147	291	516	213
Averages	60	329	231	338	(356)	181	234	168	66	69	164	311	160	388	300	166	(235)	444	14[illegible]
Departures	---	65	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Jan. 29	81	374	262	432	243	156	262	212	78	100	222	341	173	505	333	262	272	435	236
Jan. 30	78	402	210	414	249	213	240	123	49	43	146	347	132	250	487	152	242	518	111
Jan. 31	43	236	185	315	320	155	279	206	48	52	183	203	128	450	464	169	300	491	126
Feb. 1	153	176	235	440	(390)	272	120	204	---	109	---	114	253	444	419	158	141	529	211
Feb. 2	220	387	220	384	401	259	77	179	---	109	136	88	299	485	425	289	88	362	257
Feb. 3	244	389	278	73	409	272	380	246	---	133	304	40	148	511	396	(271)	88	388	200
Feb. 4	127	415	91	137	410	236	380	274	---	88	318	34	154	523	299	266	358	454	100
Averages	135	340	212	314	(346)	223	248	206	---	91	218	167	184	452	403	(244)	213	454	177
Departures	---	67	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Accumulated Departures January 1 to February 4, 1955

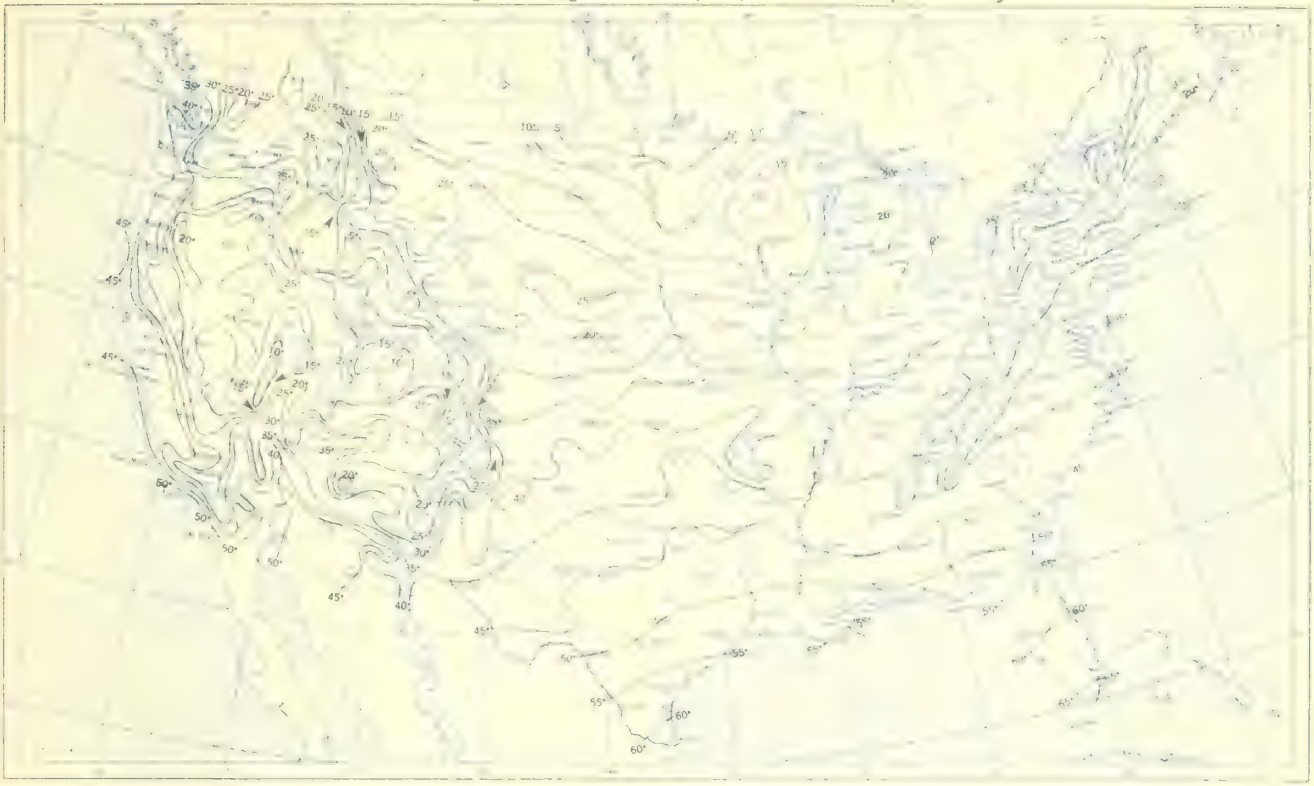
Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Prosser 4 NE, Wash.	Rapid City, S. Dak.
---	---	---	42	---	---	---	---	1223	1225	1981	---	---	---	---	---	---	---

Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	State College, Pa.	Stillwater, Okla.	Spokane, Wash.	Swan Island, W. I.	Tampa, Fla.	Toronto, Ontario	Upton, N. Y.	Wake Island, Pacific Area	Winnipeg, Manitoba
---	189	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

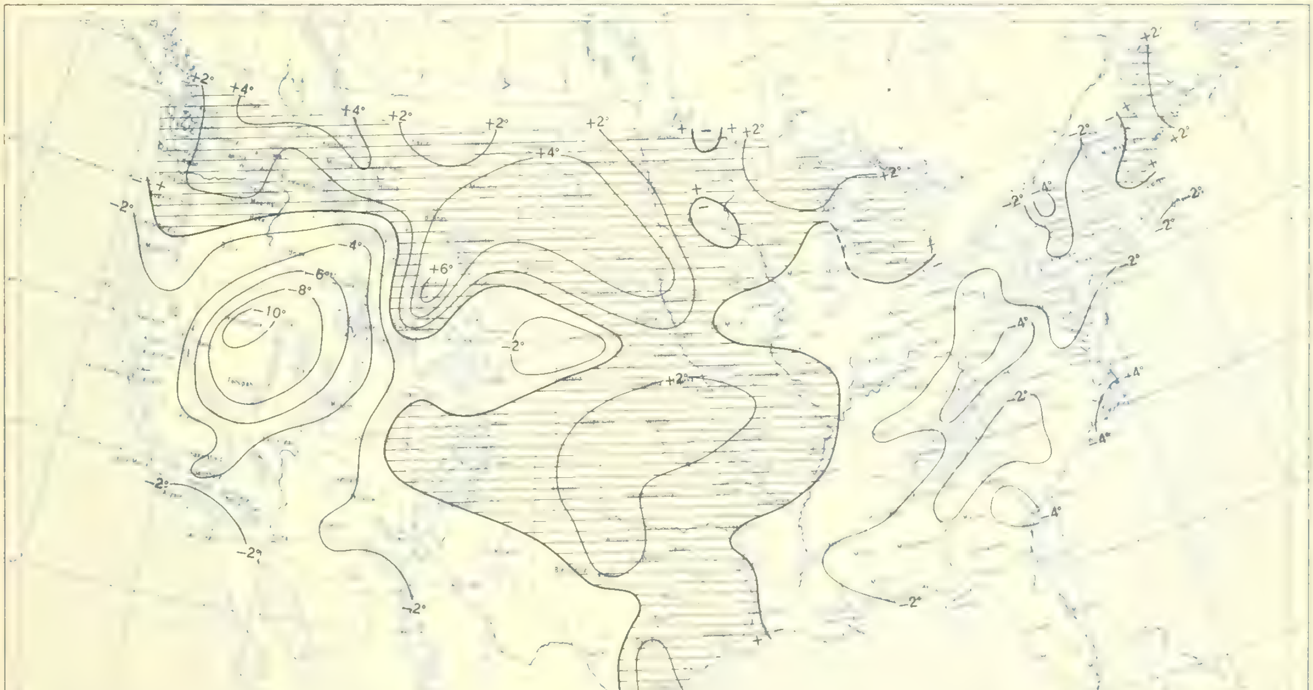
Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

NWRC, Asheville, N.C. --- 4/8/55 --- 1800

Chart I. A. Average Temperature (°F.) at Surface, January 1955.



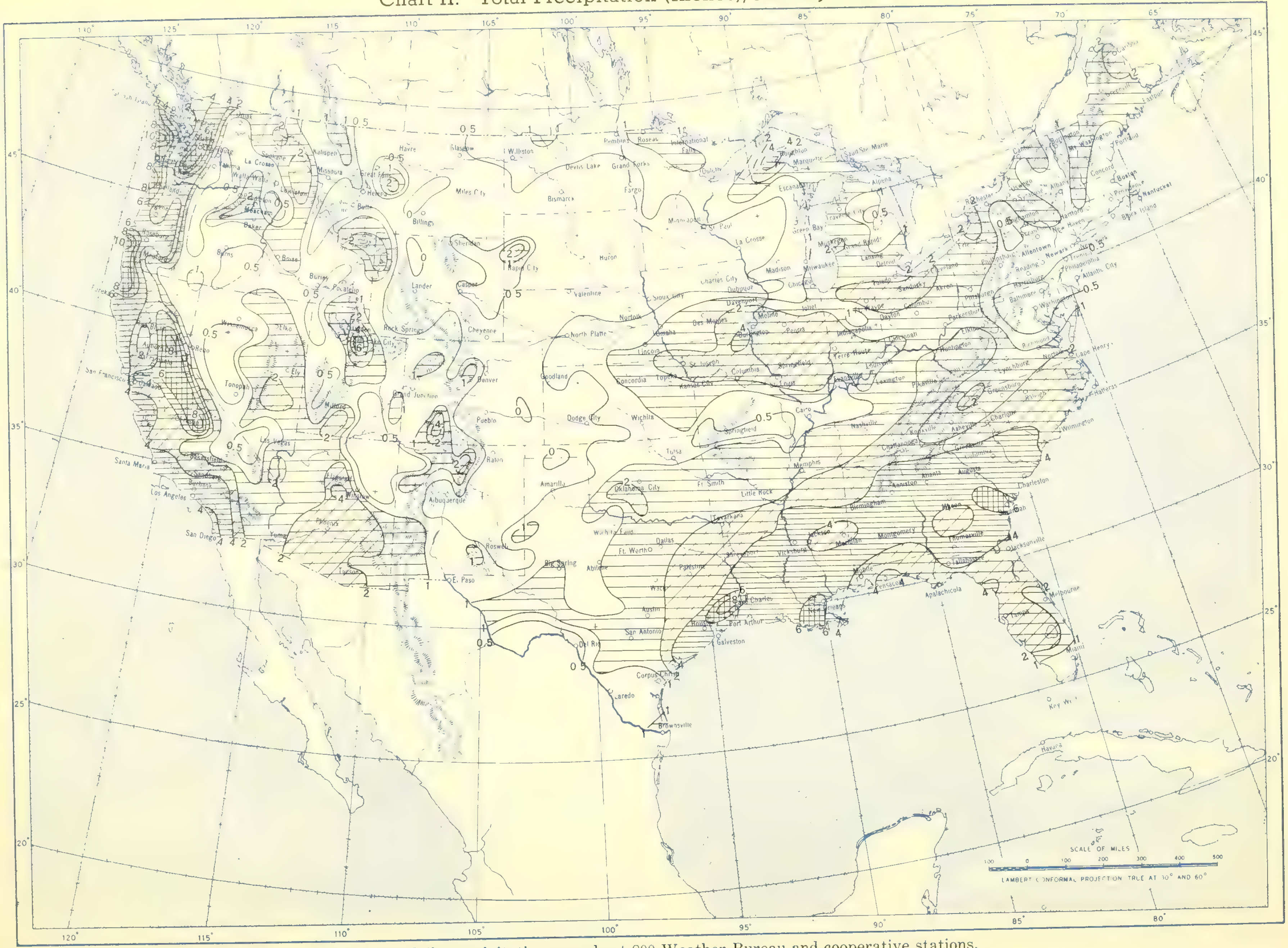
B. Departure of Average Temperature from Normal (°F.), January 1955.



A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

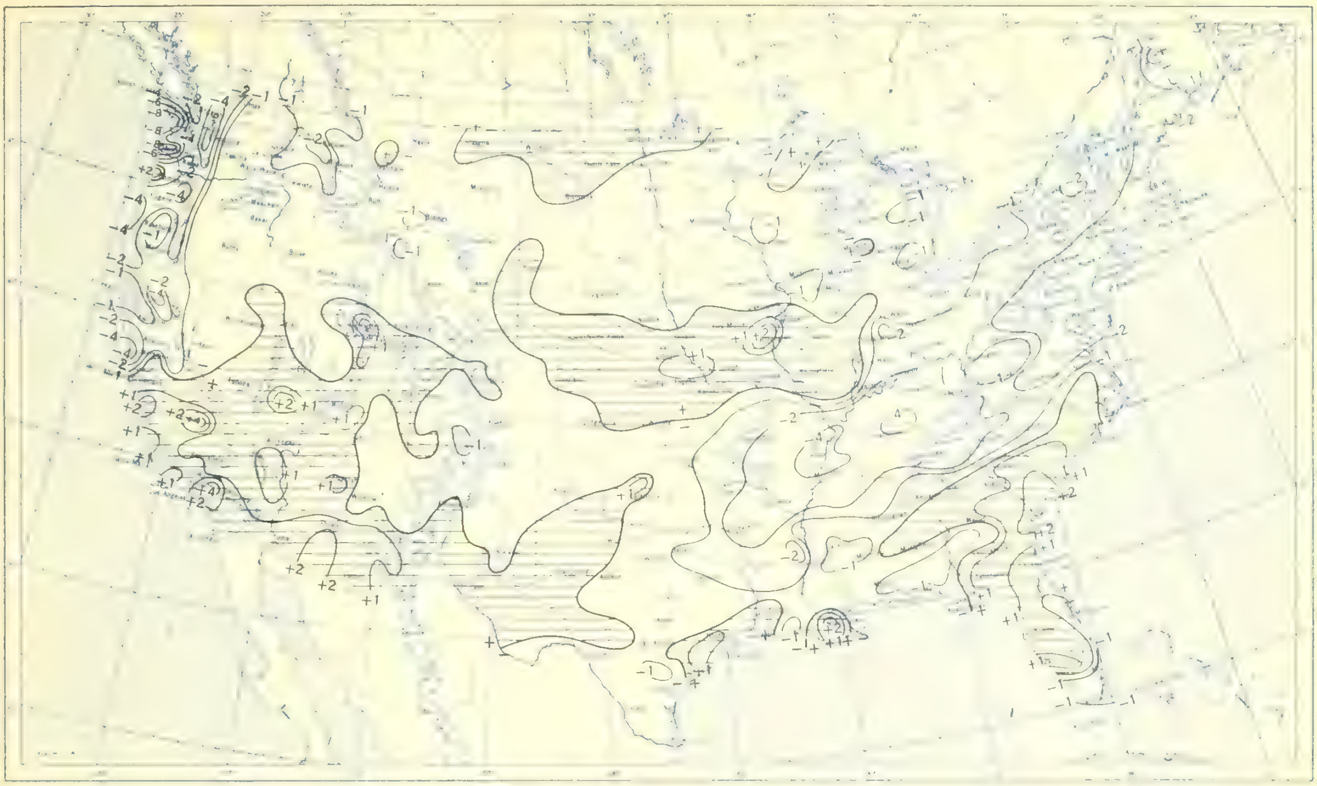
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), January 1955.

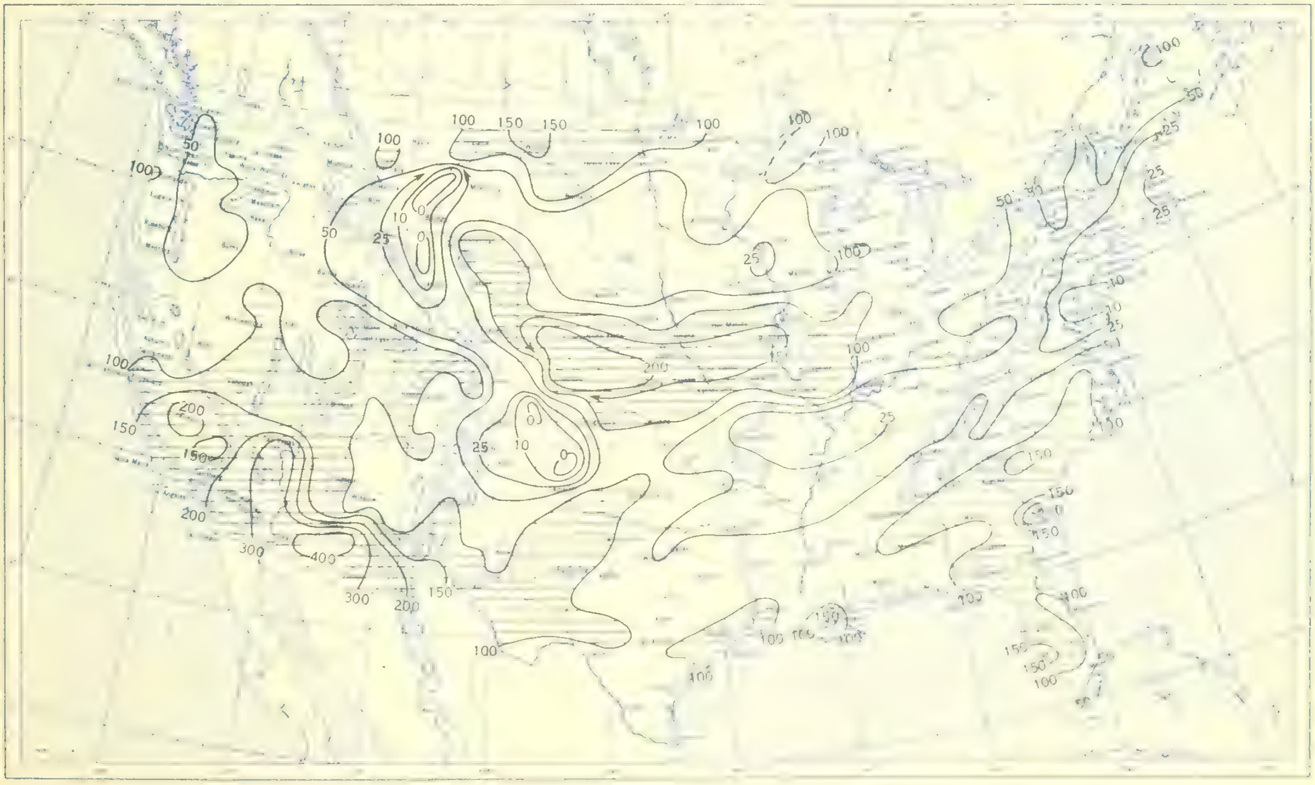


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), January 1955.

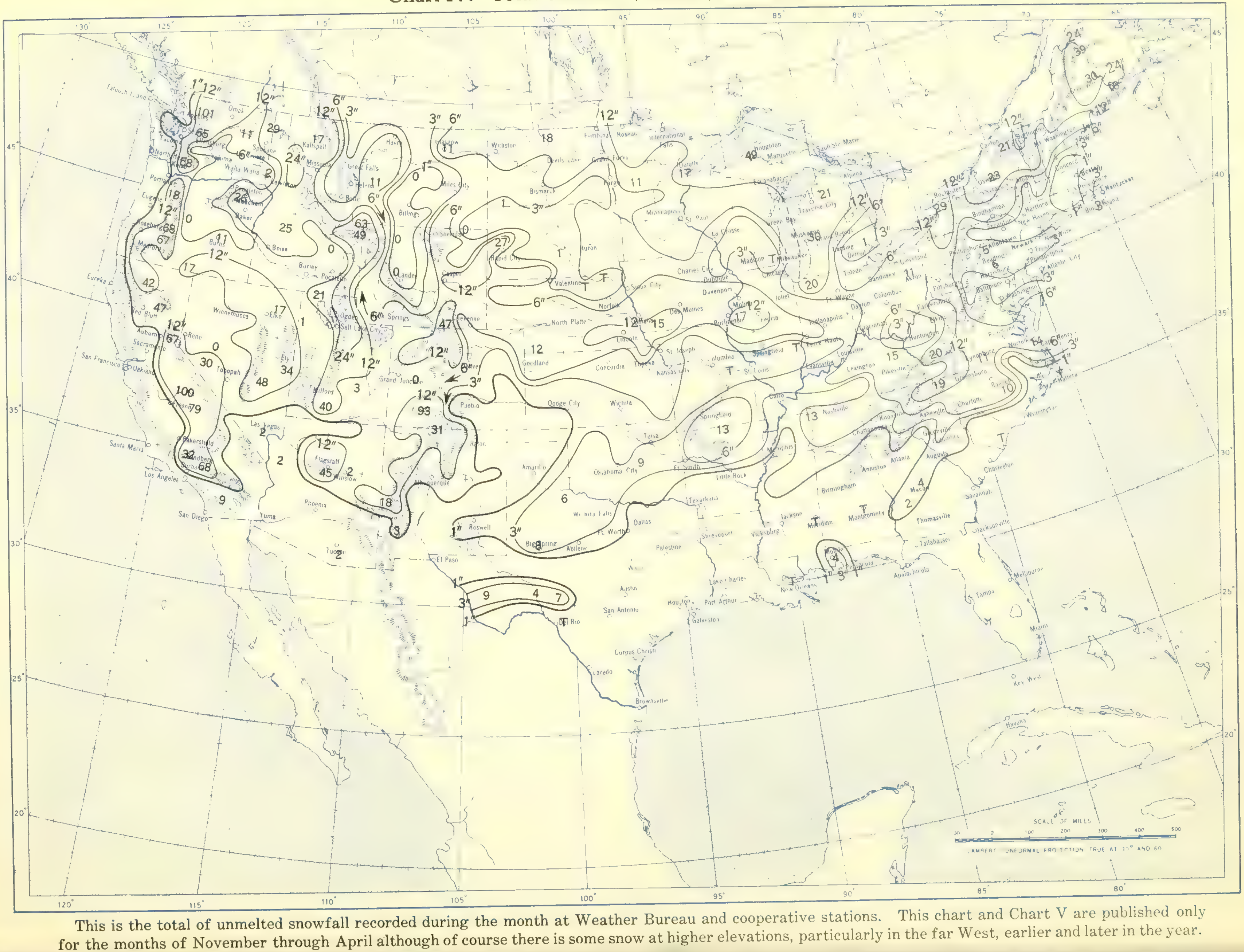


B. Percentage of Normal Precipitation, January 1955.



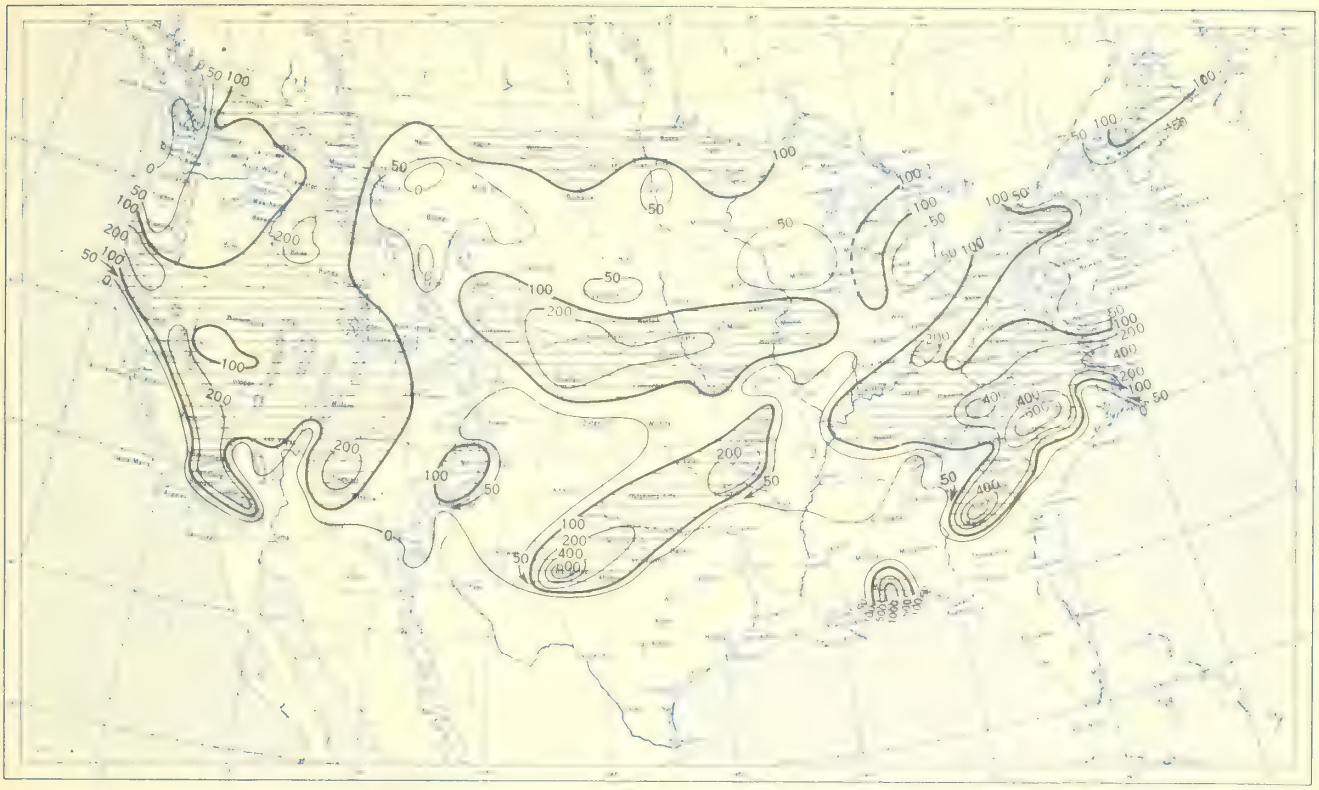
Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart IV. Total Snowfall (Inches), January 1955.

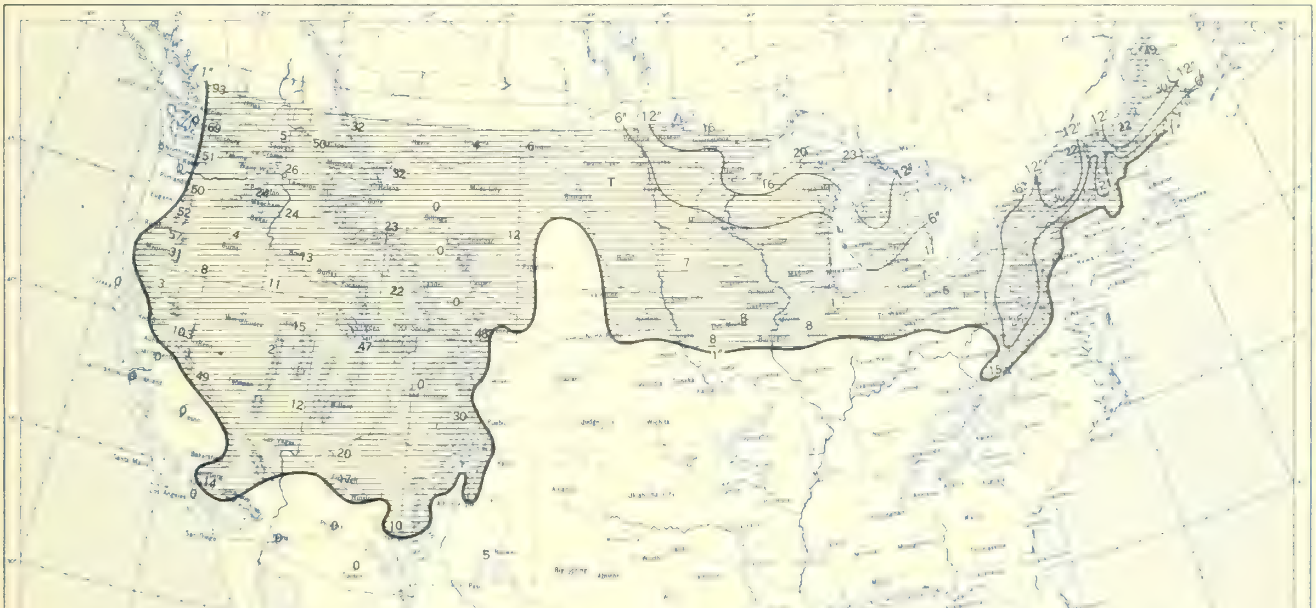


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Normal Snowfall, January 1955.

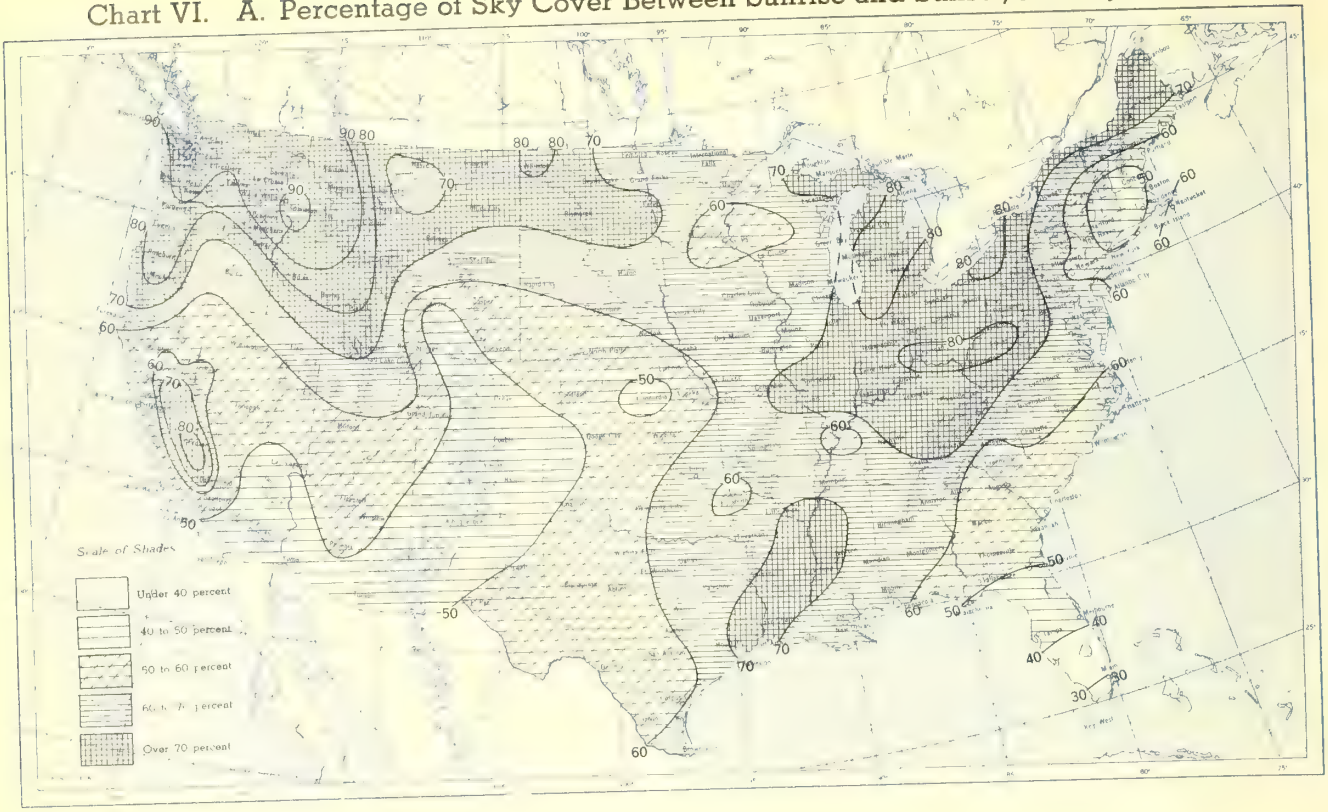


B. Depth of Snow on Ground (Inches). 7:30 a. m. E. S. T., January 31, 1955.

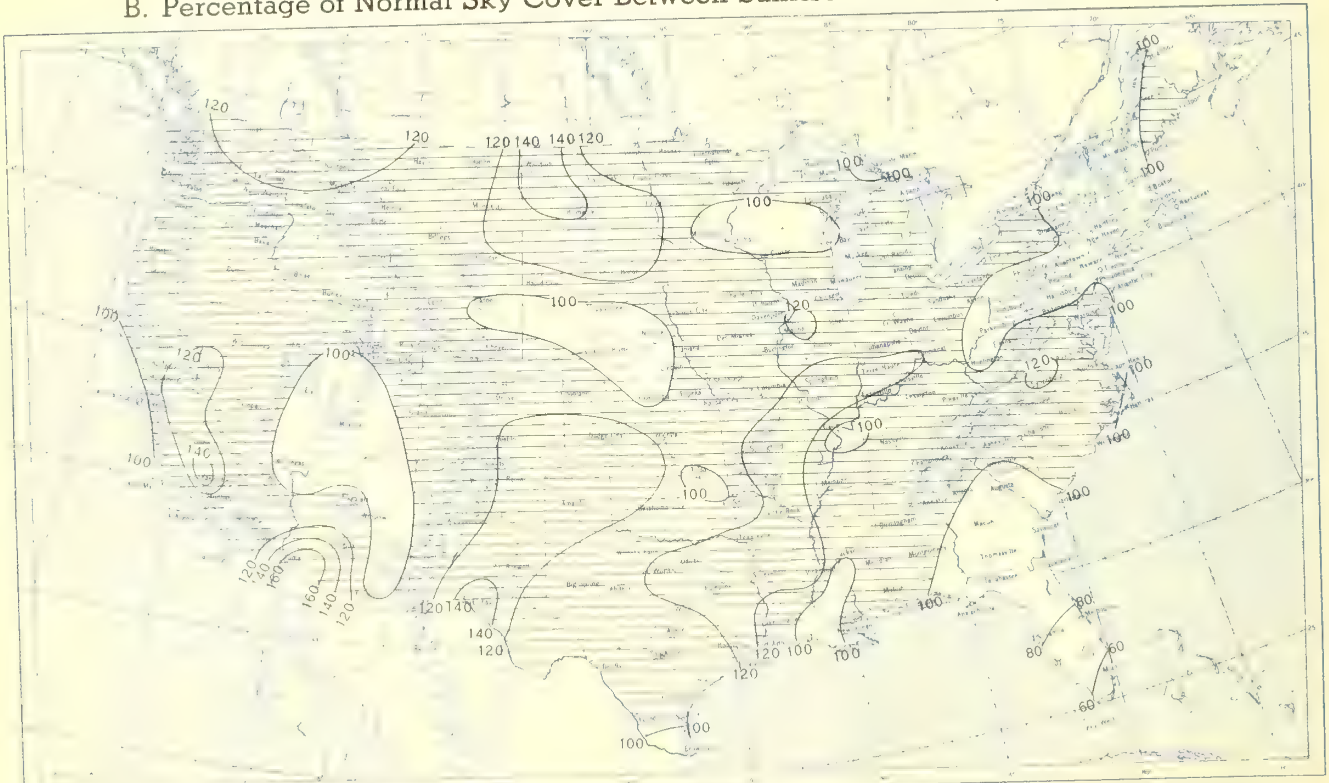


A. Amount of normal monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:30 a.m. E.S.T., of the Tuesday nearest the end of the month. It is based on reports from Weather Bureau and cooperative stations. Dashed line shows greatest southern extent of snowcover during month.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, January 1955.

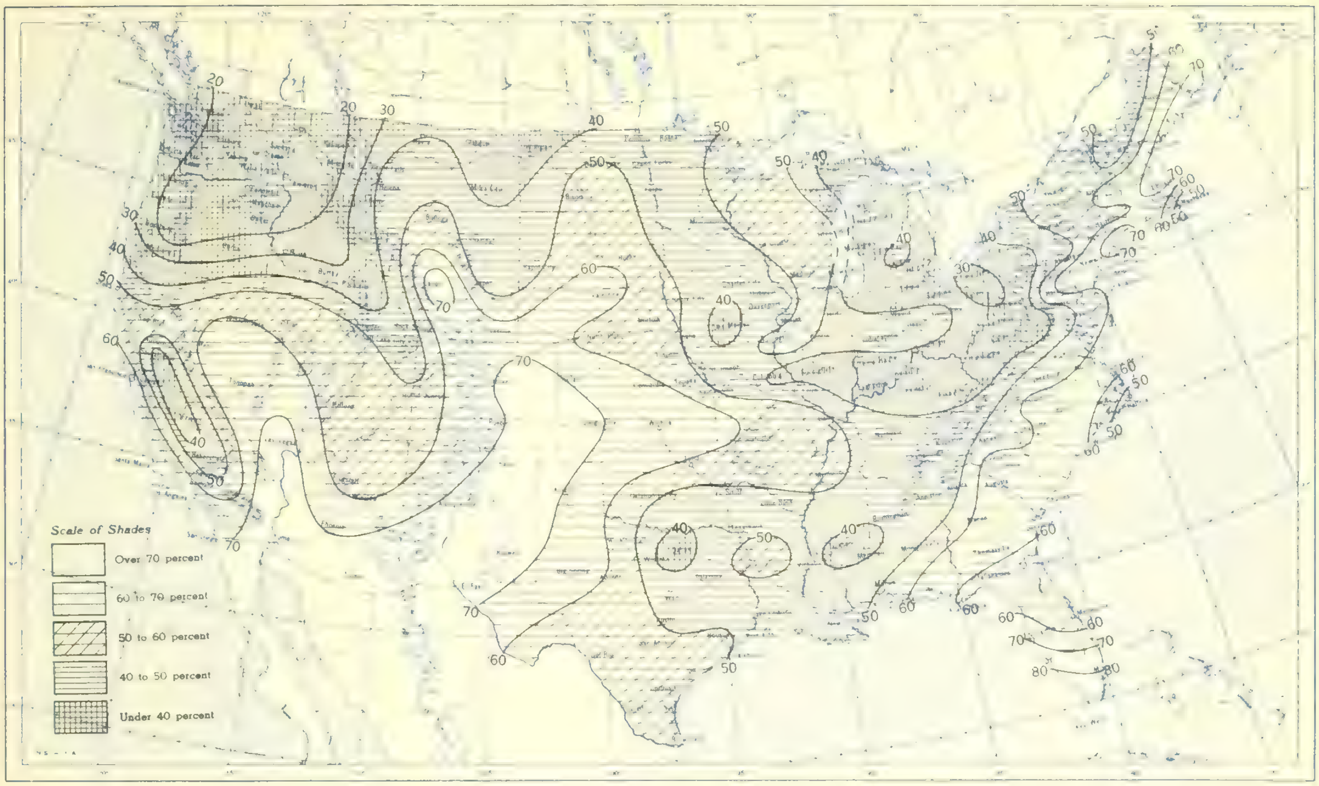


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, January 1955.

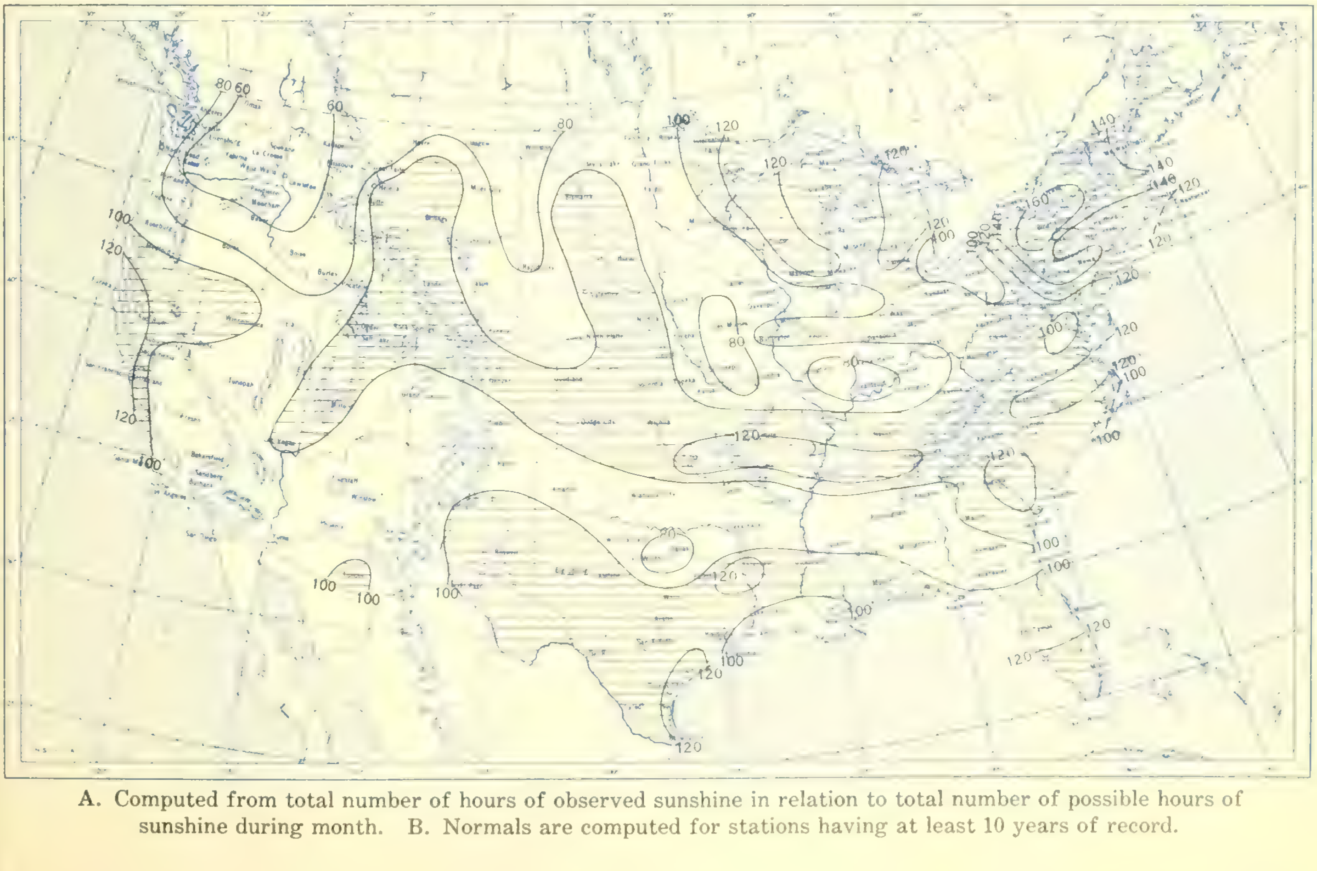


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, January 1955

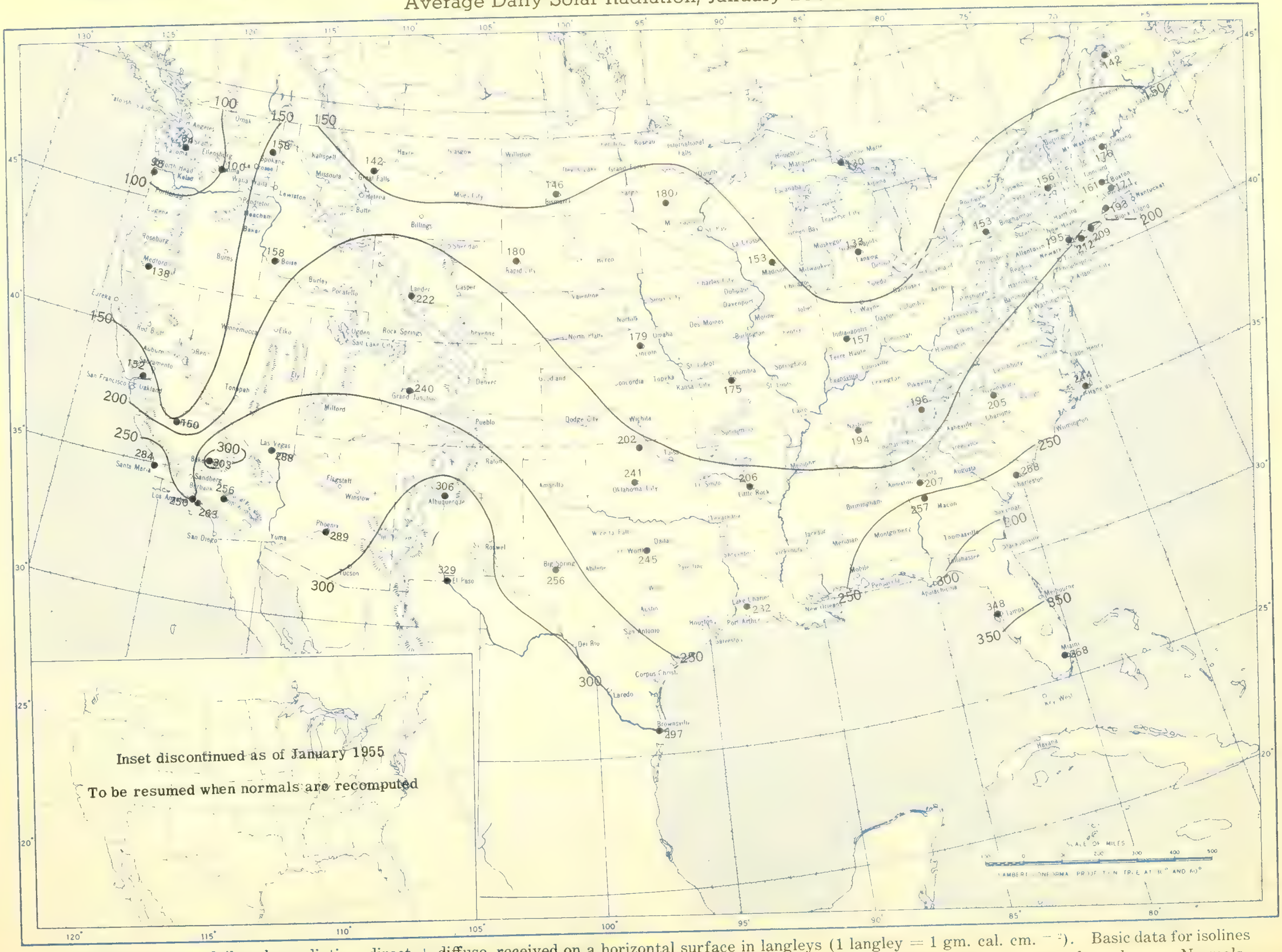


B. Percentage of Normal Sunshine, January 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, January 1955. Inset: Percentage of Normal Average Daily Solar Radiation, January 1955.



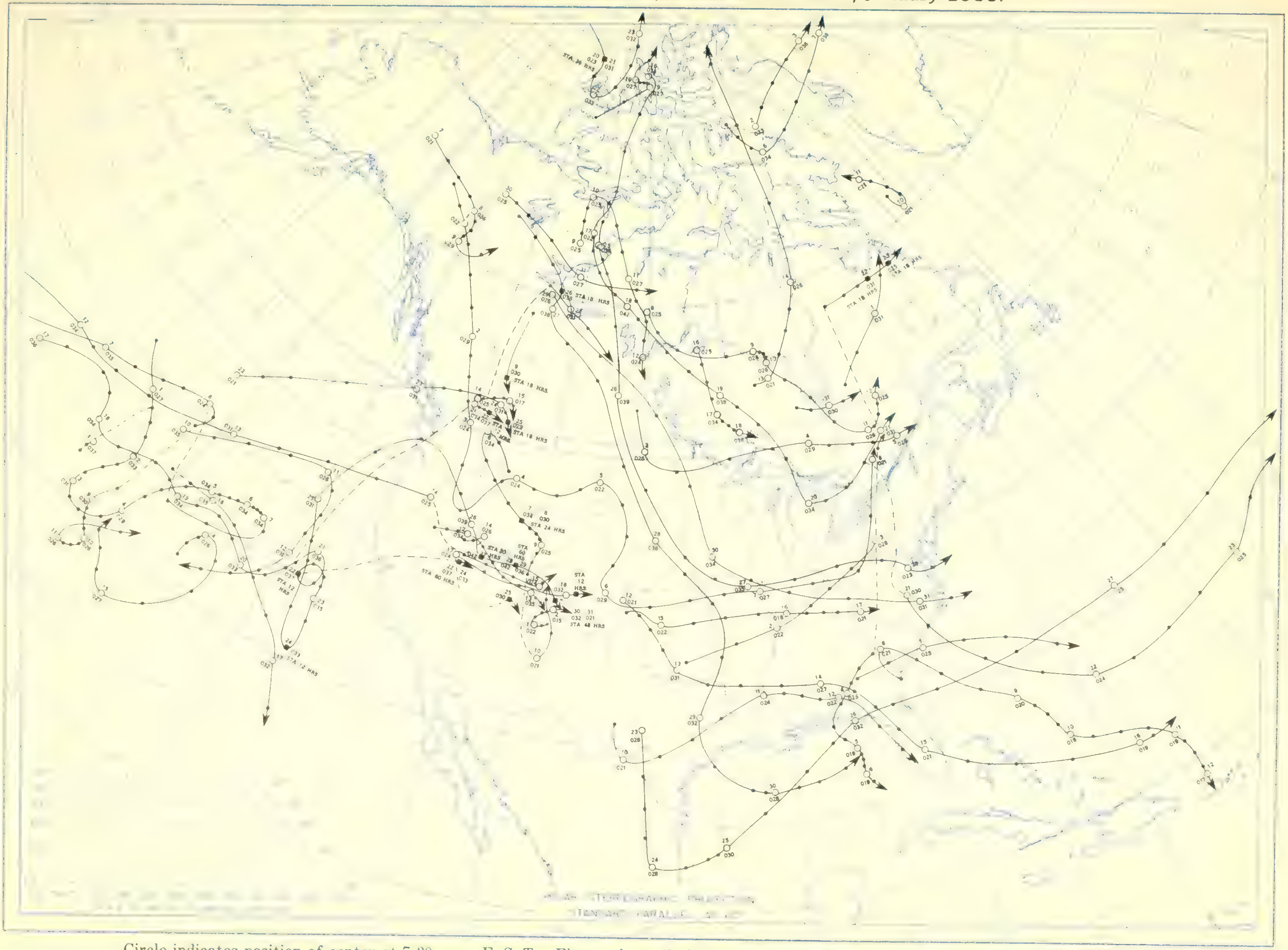
Inset discontinued as of January 1955

To be resumed when normals are recomputed

Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$). Basic data for isolines are shown on chart. Further estimates are obtained from supplementary data for which limits of accuracy are wider than for those data shown. Normals

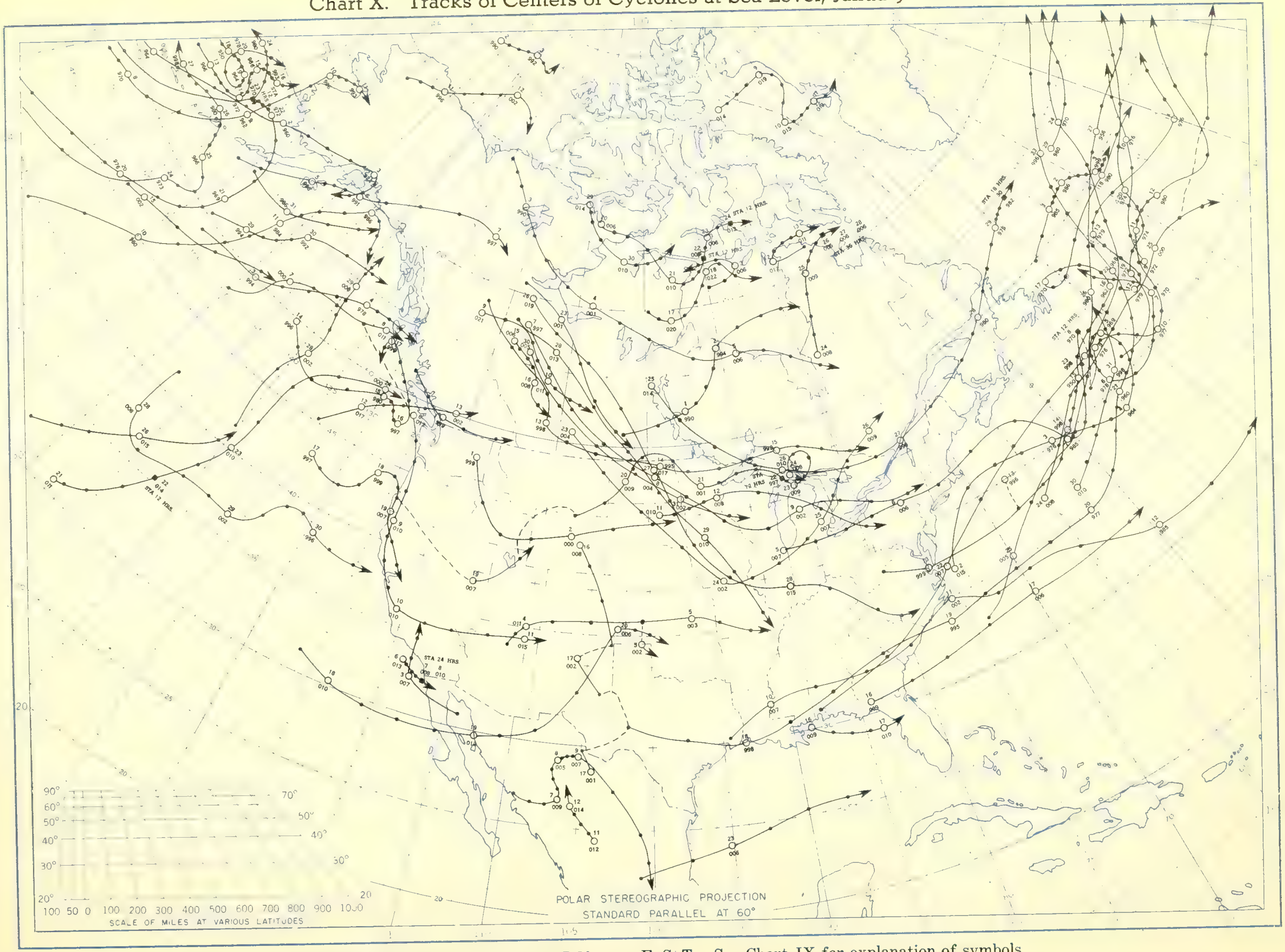
ted for stations having at least 9 years of record.

Chart IX. Tracks of Centers of Anticyclones at Sea Level, January 1955.



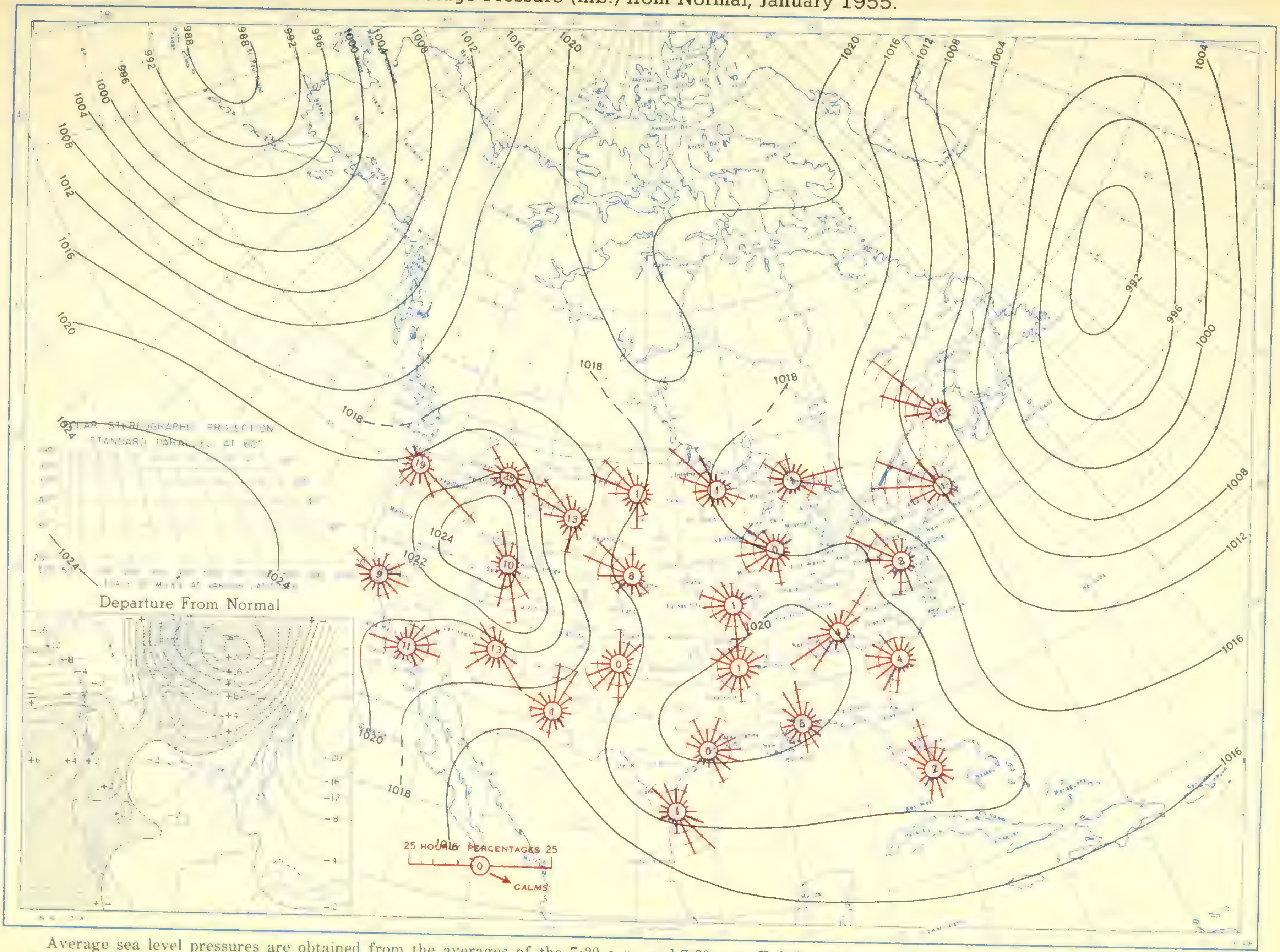
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, January 1955.



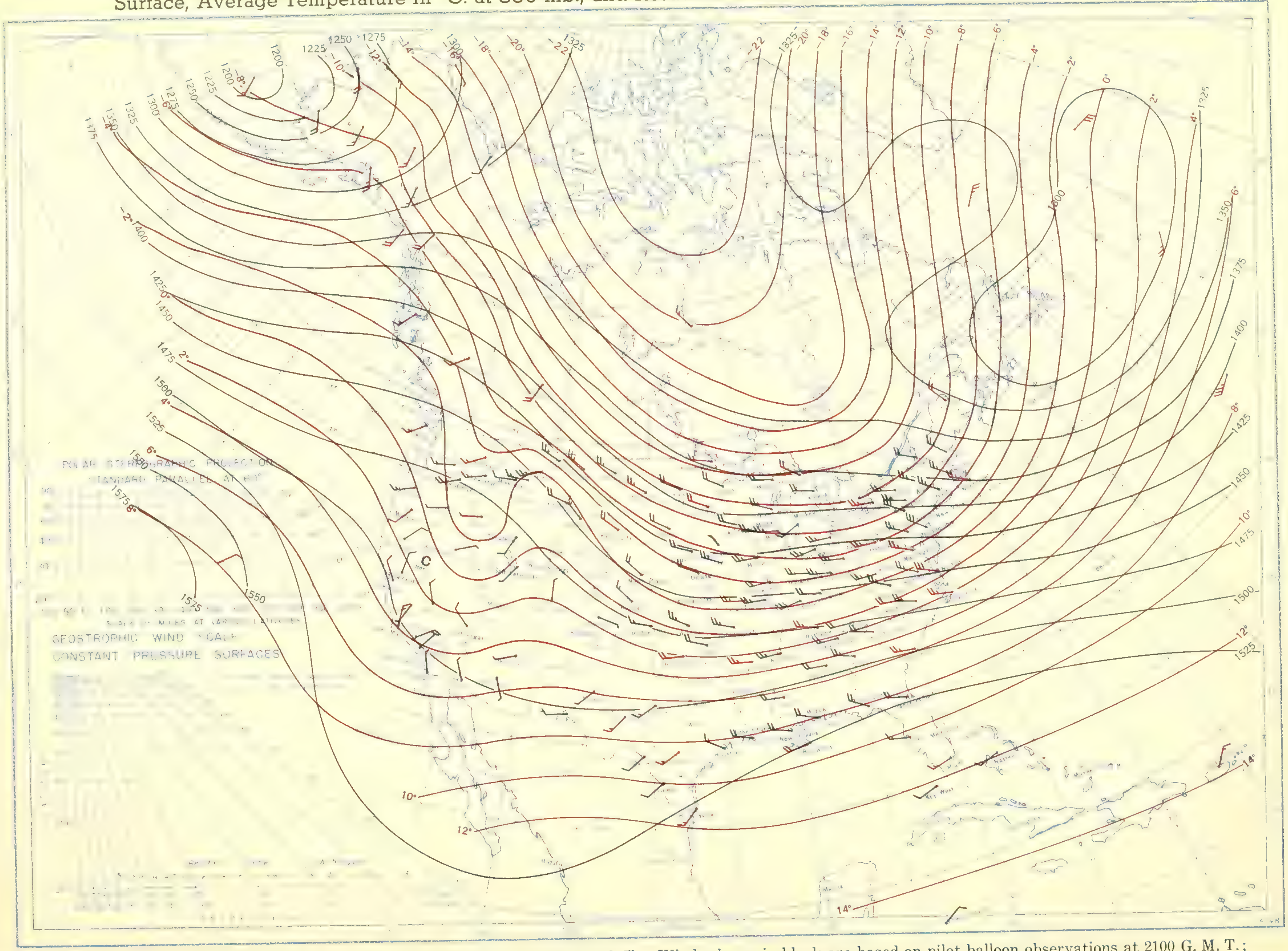
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Average Sea Level Pressure (mb.) and Surface Windroses, January 1955. Inset: Departure of Average Pressure (mb.) from Normal, January 1955.



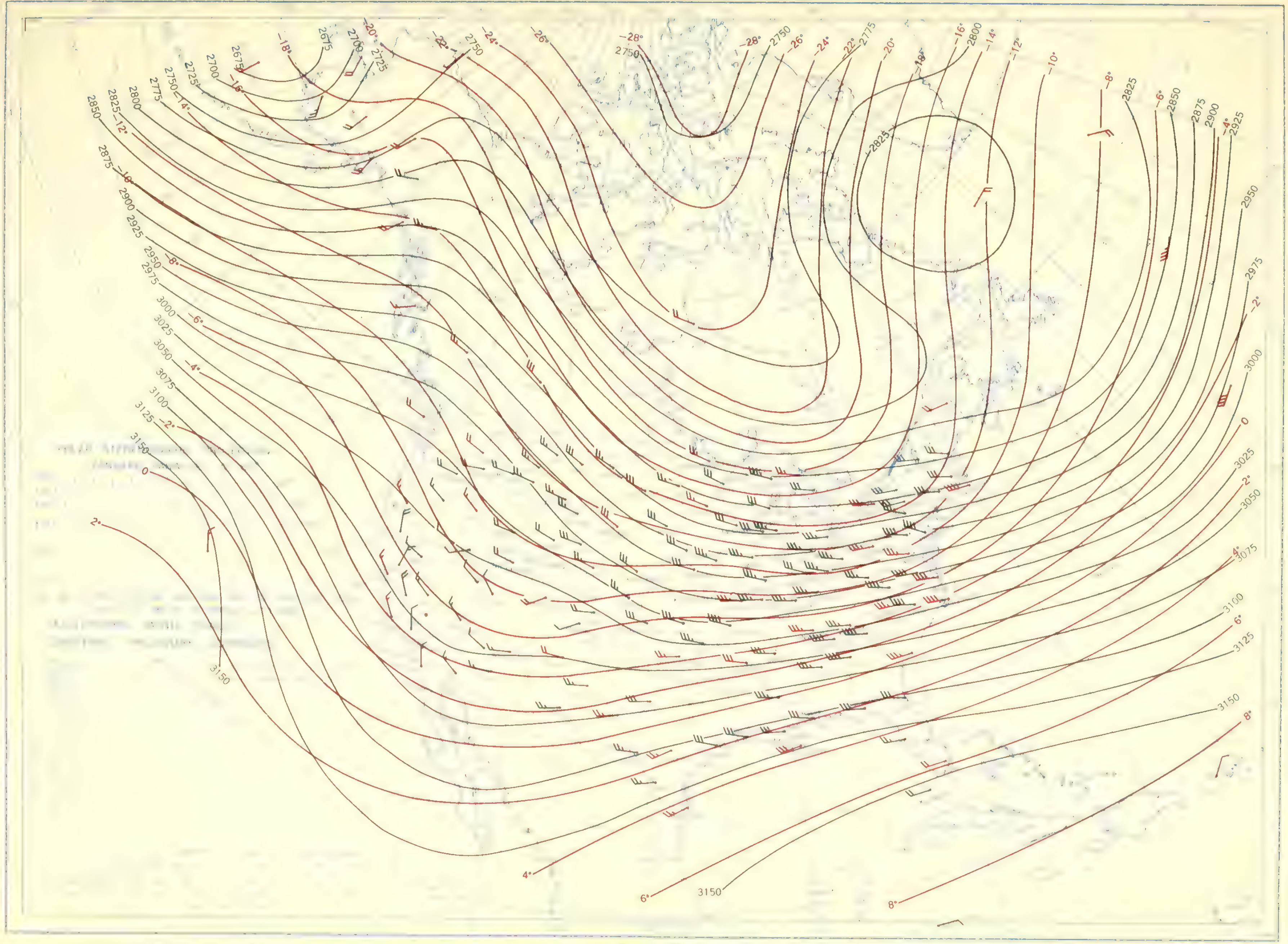
Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), January 1955.



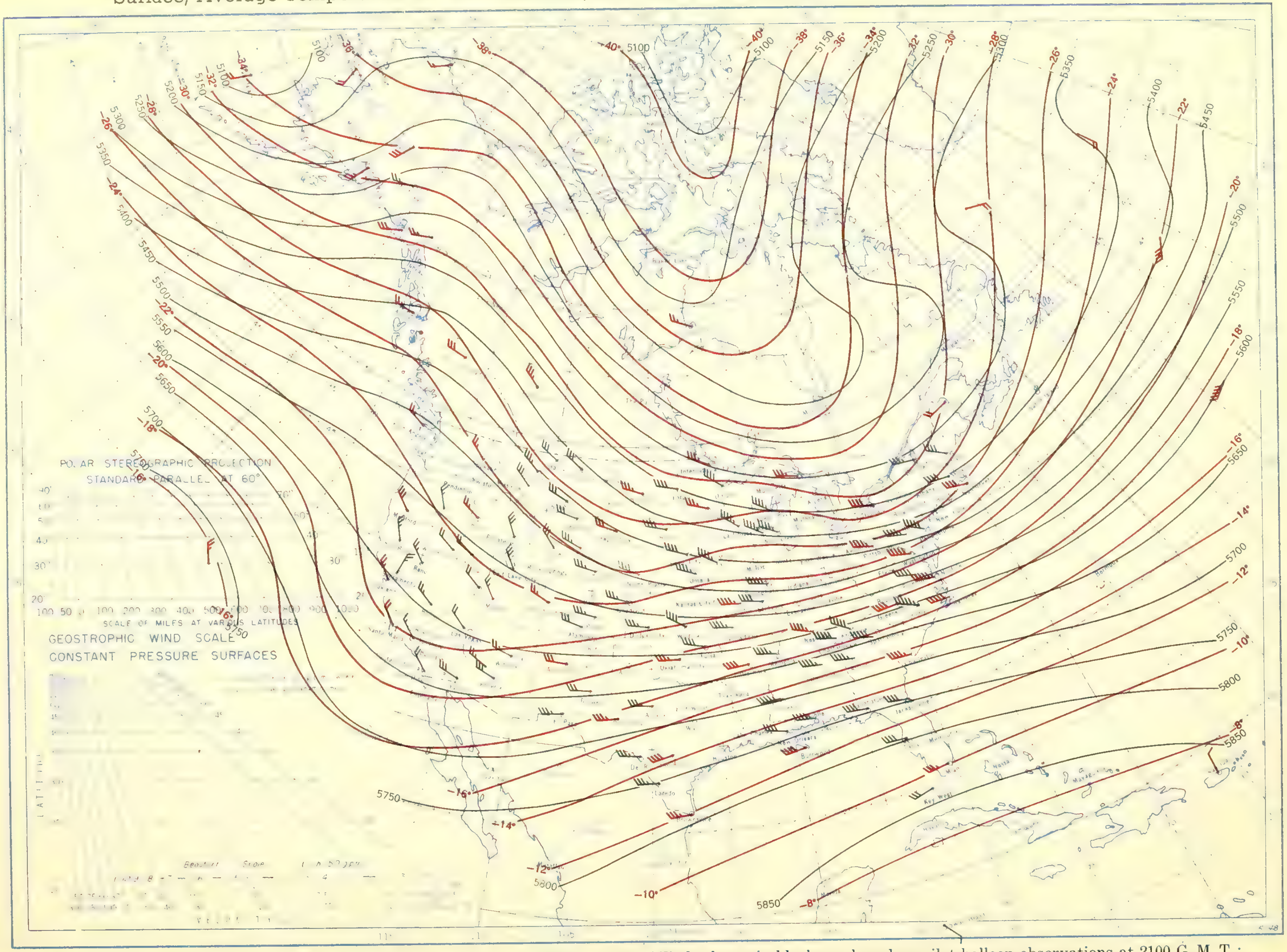
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIII. Average Dynamic Height in Geopotential Meters (1 g.p.m.. = 0.98 dynamic meters) of the 700-mb. Pressure Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), January 1955.



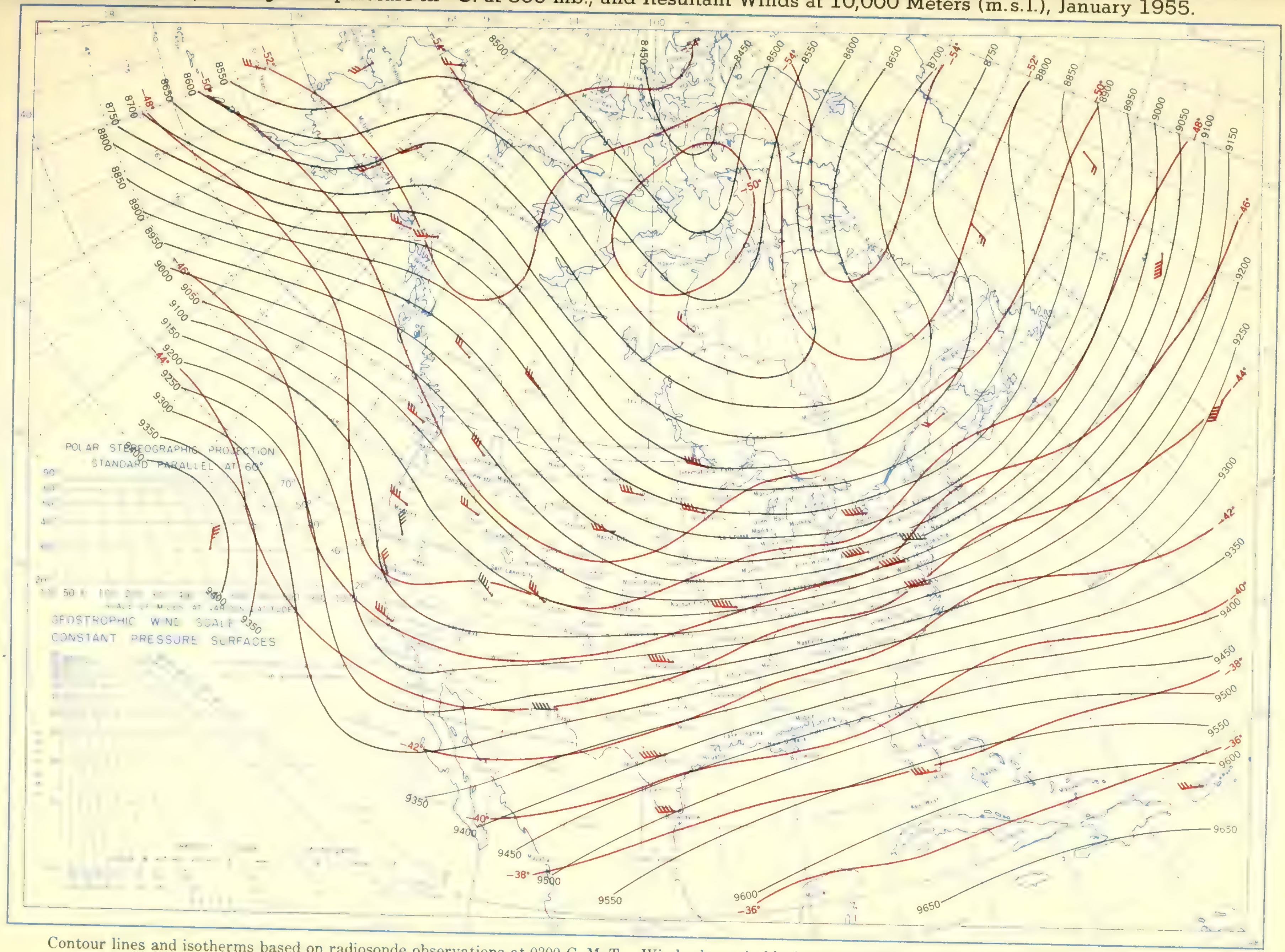
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), January 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

dynamic meters) of the 300-mb. Pressure Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), January 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

FEBRUARY 1955
Volume 6 No. 2

ASHEVILLE: 1955

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CHARTS I-XV

NOTE.--This publication contains all of the Climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 6 No. 2 FEBRUARY 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

Cold, stormy weather prevailed during much of February in the western half of the Nation. In the northern portions of the Rocky Mountains and the Great Plains, periods of heavy snowfall and high winds hampered transportation and occasionally isolated small communities. Freezing weather was unusually frequent in the far Southwest. East of the Mississippi, the first half of the month was abnormally cold with severe cold waves sweeping across the Northeast during the opening days, and over the entire area east of the Rockies from the 10th to the 12th. The second half of the month was relatively warm east of the Mississippi.

Precipitation, above normal in most areas west of the Continental Divide, continued to improve soil moisture reserves and water supplies in most of the Midwest and South. Drought persisted, however, in the western portions of the lower Great Plains where precipitation for the past 7 months was less than 50 percent of normal. Also, ground water levels in the northern Florida-southern Georgia area remained at record low levels for the sixth consecutive month. Most precipitation fell as snow in northern areas and furnished protection to grains and pastures against subsequent subzero temperatures. The snowpack in the western mountains remained below normal in virtually all sections despite substantial February increases in the northern portion.

Sunshine for the month was much above normal along the Pacific Coast (Eureka, Calif., 152 percent), the Central Texas Coast (Corpus Christi, Tex., 127 percent), and the middle and south Atlantic Coast (Charleston, S. C., 125 percent); much below normal in Iowa, Missouri, Nebraska, and South Dakota; and about normal elsewhere.

PRECIPITATION.--Heavy rains in the southeastern quarter of the Nation totaled up to 10 inches or more for the month at individual stations in Kentucky, Tennessee, Texas, Louisiana, Mississippi, Alabama, Georgia, and Florida. The greatest amounts of precipitation fell during the passage of low pressure systems on the 5th and 6th, the 17th, and 19th to 23d. On the 5th 1 inch of rain fell in 5 minutes at New Orleans, La., setting a 60-year record. Many streams from the Ohio Valley southward were slightly above flood stage by the end of the month.

From west Texas to the Pacific Coast and in a large portion of the Great Basin precipitation was less than 50 percent of normal. A duststorm in Arizona on the 18th was described as one of the worst in the State in many years.

SNOWFALL.--The month's snowfall was much above normal in most of the area from the northern Rocky Mountains eastward and below normal in the Cascade and Sierra Nevada Mountains, the lower Rocky Mountains, the Ohio Valley, and along the Atlantic coast as far north as New England.

Heavy snowfall during the first week fell in the Cascade Mountains and in some sections of the North Central Interior; in Wyoming Lander reported 20 inches and Thermopolis 14, and up to 10 inches were reported in parts of Nebraska, Kansas, and Iowa. On the 17th as much as 25 inches of new snow fell in upper New England, Fort Kent, Maine, reporting 58 inches on the ground. Heavy snow fell in the northern Rockies and northern Great Plains during the blizzard on the 18th to the 20th. In South Dakota 8 to 14 inches which fell during this storm was drifted by 40 to 70 m.p.h. winds, as the temperature hovered around the zero mark. This was the worst blizzard since 1949.

TEMPERATURE.--Temperatures averaged below normal west of the Mississippi, with the greatest minus anomalies of 8° in the central Great Plains and 10° in the central Great Basin. In most of this area temperatures averaged below normal for all 4 weeks of the month. The month's extreme low, -47°, was recorded at Taylor Park, Colo., on the 21st. Fresno, Calif., had 13 days with 32° or below, a new record. Freezes during the first week and again from the 19th to the 25th in the far Southwest caused some citrus damage in the Salt River Valley of southern Arizona and made protective operations necessary in southern California.

During a cold spell in the Northeast from the 1st to the 4th Caribou, Maine, recorded -41°, New York City 0°, and Washington, D. C., 10°, the lowest in the latter city since January 31, 1948.

On the 10th to the 13th a cold wave overspread the entire eastern half of the Country, reducing temperatures to subzero levels over the North Central Interior and to freezing or below over all the South except extreme southern portions of Texas and Florida. As the cold air moved across the East, the fall in temperature was unusually rapid; Pittsburgh, Pa., reported a 54° drop in 18 hours.

Unseasonably warm weather in the East during the second half of the month depleted the snow cover except in the extreme northern sections. Daytime thawing was reported in Sault Ste. Marie, Mich., on the 19th, 20th, and 21st. Maxima in the 80's occurred in the South during the last decade and Boquillas Ranger Station, Texas, recorded 95° on the 21st for the month's highest temperature.

DESTRUCTIVE STORMS.--The month's most violent storms developed along a squall line that crossed parts of Arkansas, Mississippi, Tennessee, and Alabama on the 1st. Tornadoes in Tennessee caused $210,000 damage, and strong winds in the other 3 States were responsible for 23 deaths, 189 injuries, and property damage totaling $830,000.

In Washington and Oregon general cyclonic winds with gusts exceeding hurricane speeds on the 27th and 28th caused widespread damage estimated at $450,000.

Blizzard conditions in Colorado on the 18th and 19th caused losses estimated at $750,000.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

FEBRUARY 1955

Section	Temperature								Precipitation					
	Average	Departure from normal	Monthly extremes						Average	Departure from normal	Monthly extremes			
			Station	Highest	Date	Station	Lowest	Date			Station	Greatest	Station	Least
	°F	°F		°F.			°F.		In.	In.		In.		In.
Alabama	49.7	0.6	Chatom	81	28	Sylacauga 4NE	6	13	5.45	0.22	Carbon Hill	9.33	Natchez	2.42
Arizona	39.7	-5.3	Gila Bend	89	17	2 Stations	-20	4+	.47	-.79	Bright Angel RS	3.13	13 Stations	.00
Arkansas	43.6	-.9	Crossett 7S	81	28	do	2	11	4.55	.95	Madison	7.40	Beech Grove	1.56
California	44.6	-2.5	3 Stations	87	15	Boca	-25	28	1 57	-2.45	Giant Forest	8.97	13 Stations	.00
Colorado	22.0	-5.3	2 Stations	74	17	Taylor Park	-47	21	.97	-.04	Wolf Creek Pass 4W	8.13	2 Stations	T
Connecticut	29.6	2.6	Danbury	59	28	Falls Village	-15	3	3.72	29	Baltic	5.29	Bridgeport WB AP	2.61
Delaware	36.2	1.3	3 Stations	68	22	Newark College Farm	0	3	2.87	-.29	Georgetown 5 SW	3.10	Middletown 2S	2.39
Florida	61.7	1.0	Fort Lauderdale	89	8	2 Stations	17	12+	2.02	-1.01	Pensacola WB City	10.25	2 Stations	T
Georgia	51.3	1.4	Eastman	84	27	Blairsville Exp. Sta.	3	13	3.46	-1.14	Flat Top	11.92	Waycross	1.17
Idaho	22.6	-5.4	Lewiston Water PL	58	7	Island Park Dam	-34	10	1.25	-.47	Burke 2NNE	5.79	Emmet 2E	.05
Illinois	31.4	1.5	2 Stations	74	27+	Stockton	-15	11	2.56	.64	Lawrenceville	5.32	3 Stations	1.32
Indiana	31.7	1.1	Washington	72	28	Kentland	-15	12	3.19	.79	Salem	E8.37	W. Lafayette 6NW	.98
Iowa	20.8	-1.8	2 Stations	51	19+	4 Stations	-21	11+	1.30	.21	Clarinda	4.00	Saratoga 2E	.31
Kansas	30.2	-3.8	Antony	74	28	Smith Center	-14	7	1.35	.37	Atchison	4.23	Hugoton	.10
Kentucky	38.2	.7	Pikeville	79	20	Dewey Dam	-19	13	7.10	3.58	Munfordville	10.46	Shawnee Steam Plant	2.67
Louisiana	53.7	-1.0	North Livingston	88	27	2 Stations	15	12	6.79	2.20	Oberlin Fire Tower	15.41	Buras 2NNW	1.68
Maine	22.0	3.5	4 Stations	53	10+	do	-41	1	5.29	2.30	Belfast	7.86	Fort Kent	2.80
Maryland	35.2	1.4	2 Stations	71	28	Oakland 1SE	-17	4	2.93	.06	Oakland 1SE	4.30	Ocean City	1.06
Massachusetts	29.5	2.9	5 Stations	58	10+	Pittsfield WB AP	-14	3	3.73	.35	Peru	5.28	Hyannis	2.10
Michigan	22.2	2.1	Battle Creek CAA AP	51	20	Vanderbilt Trout Sta.	-26	3	1.40	-.24	Harbor Beach 3NW	3.01	Kenton U.S. Forest	.35
Minnesota	9.8	-2.5	5 Stations	44	14+	Red Lake Falls	-46	24	1.30	.55	Indus	2.07	Albert Lea	.27
Mississippi	49.7	.0	Picayune	83	28	3 Stations	10	11+	6.04	1.04	Woodville	13.68	Paulding	3.12
Missouri	34.3	.6	Doniphan	79	27	Conception	-16	12	3.23	1.14	Springfield WB AP	5.34	Memphis	1.19
Montana	18.0	-3.0	Fort Benton	60	16	West Yellowstone	-40	19	.83	.22	Haugan	4.98	Phillips 3SW	T
Nebraska	21.8	-4.9	Benkelman	64	17	Osmond	-20	12	.90	.19	Falls City	2.78	Enders Dam	.08
Nevada	29.9	-5.2	Overton	78	16	Deeth	-24	11	.50	-.51	Jarbidge	1.92	Sarcobatus	.00
New Hampshire	24.0	4.1	3 Stations	58	10+	2 Stations	-32	3	4.06	1.35	Pinkham Notch	6.65	Bethlehem	2.62
New Jersey	32.8	1.7	Audubon	66	28	Canoe Brook	-18	3	3.06	-.32	Long Valley	4.35	Jersey City	1.65
New Mexico	33.3	-5.1	Las Cruces	80	15	Gavilan	-33	21	.32	.32	Batemans Ranch	2.81	27 Stations	.00
New York	24.2	1.9	3 Stations	64	20+	3 Stations	-38	3	2.76	.14	Constantia	6.32	Massena 1NE	.92
North Carolina	43.7	.2	Sloan 3S	84	28	2 Stations	-6	13	3.38	-.52	Mount Mitchell TVA	13.87	Hatteras WB City	1.01
North Dakota	7.5	-3.0	Hettinger	49	16	Belcourt Indian Res.	-45	24	.52	.05	Grand Forks CAA AP	1.54	Washburn	.04
Ohio	31.8	1.5	Chesapeake Huntington CAA AP	74	20	Jackson	-15	13	3.53	1.14	Cincinnati Price Hill	7.12	Glandorf 1SW	1.54
Oklahoma	41.3	-1.4	Frederick	84	28	Kenton	-2	20	1.95	.34	Smithville	6.20	Goodwell	.03
Oregon	32.7	-3.1	Illahe 1N	65	21	Seneca	-20	19	1.86	-1.46	Alsea Fish Hatch.	11.93	2 Stations	.06
Pennsylvania	29.7	.9	2 Stations	69	20	Ridgway 3W	-28	4	2.83	.07	Kregar 4SE	4.51	Albion	1.07
Rhode Island	31.5	2.2	do	53	10+	Greenville	-6	3	4.20	.69	Austin	6.40	Block Island WB AP	2.80
South Carolina	48.4	.4	3 Stations	82	28	2 Stations	3	12+	2.81	-1.21	Caesars Head	8.01	Pinopolis Dam	1.28
South Dakota	15.4	-3.9	do	57	8+	Andover 7N	-30	12	.89	.33	Hot Springs 7W	2.10	Ludlow 2NW	.05
Tennessee	41.9	.4	Savannah	81	28	Crossville CAA AP	-4	13	6.75	2.21	Carthage Sub. Sta.	10.01	Greenville Exp. Sta.	4.02
Texas	49.4	-1.1	Boquillas R. S.	95	26	Stratford	-1	20+	1.89	.33	Bon Wier	10.24	Numerous Stations	.00
Utah	20.9	-9.2	St. George PH	72	15+	Scofield Dam	-30	24	1.49	.23	Alta	11.27	Partoun	.10
Vermont	20.4	2.0	Bennington 2NW	58	10	Lemington	-36	3	3.47	.96	West Topsham	5.18	Lemington	2.33
Virginia	38.3	.8	4 Stations	75	28	Big Meadows	-8	12	3.61	.61	Dunbar	7.91	Riverton	1.73
Washington	33.1	-1.5	do	60	7+	Chesaw	-10	27	3.24	-.29	Skykomish	15.11	Coulee Dam 1SW	.05
West Virginia	34.6	.8	Williamson	80	21	2 Stations	-18	4	4.95	1.85	Cranberry Glades	8.23	Franklin 3NE	1.30
Wisconsin	16.8	.2	2 Stations	47	20	3 Stations	-28	12	1.02	-.18	Racine	1.92	Eagle River 4W	.22
Wyoming	18.7	-3.5	do	58	16	Sage 4NNW	-40	20	.92	.14	Parkman 5WNW	4.12	Lysite	.10
Puerto Rico	72.5	-.2	San German	94	23	Cayey	51	6	2.00	-1.19	Corozal	6.65	Coamo Dam	.12

+ And also on a later date or dates.
E Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of new snowfall.

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

Table 2

FEBRUARY 1955

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F				°F	%	In.	In.	In			In.	In.	M p h		M p. h.			0–3	4–7	8–10	0–10	%
ALABAMA																																
Birmingham	610	996.6	1022.5	59	39	48.6	0.9	76	28	18	12	0	9	36	67	6.47	1.30	3.84	10	0	T	T	11.1	SE	35	SE	5	6	4	18	7.3	35
Mobile	10	1013.5	1022.0	66	46	55.8	.8	77	27	22	12	0	4	47	78	6.52	1.71	4.46	9	1	0.0	0	12.8	SE	-			7	2	19	7.1	-
Montgomery	198	1015.2	1023.0	63	40	51.6	.0	77	27	19	12	0	7	42	74	3.03	-1.70	2.33	6	0	.0	0	9.1	E	29	E	4	6	3	19	7.2	41
ARIZONA																																
Flagstaff	6993	------	------	38	7	22.5	-6.3	57	14	-16	4	0	27	--	--	1.56	-.18	.74	7	0	15.6	16						12	9	7	4.4	
Phoenix	1114	978.3	1018.1	65	37	50.9	-3.4	79	15+	26	22	0	10	27	42	.09	-.70	.09	1	0	.0	0	5.0	E	*29	WSW	18	17	6	5	3.0	93
Prescott	5014	846.9	1018.9	50	20	35.3	-4.1	68	15	7	21	0	23			.31	-1.02	.17	4	0	1.1	T	7.5	SSW	29	SW	17	16	5	7	3.8	79
Tucson	2558	927.5	1017.3	64	33	48.8	4.4	82	14	20	5+	0	12	17	33	.19	.73	.19	1	0	T	0	7.4	SE	34	SE	11+	16	3	9	3.6	90
Winslow	4880	852.0	1019.4	49	17	33.0	-6.8	65	9+	4	22	0	25	8	39	.01	-.46	.01	1	0	T	T	8.5	WSW	*37	SW	2+	15	8	5	3.6	-
Yuma	199	1013.5	1018.7	69	41	55.0	-5.1	85	15	31	20	0	3	16	26	.01	-.28	.01	1	0	.0	0	7.9	N	36	N	18	19	5	4	2.7	87
ARKANSAS																																
Fort Smith	458	1003.7	1021.0	54	31	42.5	-2.1	75	28	9	11	0	16	33	72	3.75	.71	1.45	8	4	.0	T	8.2	E	33	W	19	10	6	12	5.6	53
Little Rock	257	1008.1	1021.5	54	35	44.6	-1.0	73	28	13	11	0	11	34	67	4.24	.18	1.70	11	1	.6	T	10.2	NW	31	SW	1+	8	5	15	6.4	47
Texarkana	361	1006.8	------	58	37	47.5	-2.0	77	28	14	11	0	10			4.45	.35	2.23	6	1	T	T	----		--		-	--	-	--	---	
CALIFORNIA																																
Bakersfield	489	1003.7	1021.9	62	38	50.0	-2.5	76	12	30	3	0	6	33	57	.85	.27	.72	4	0	0	0	5.3	ENE	*23	ESE	10	14	8	6	3.8	-
Bishop	4108	876.4	1020.0	54	22	37.8	-3.5	71	15	13	25	0	27	--	-	.19	.72	.12	3	0	1.5	1	----	---	-		-	14	8	6	4.1	-
Blue Canyon	5280	840.2	1020.7	42	27	34.8	-1.3	56	10	12	28	0	18	--	--	5.35	-4.12	3.37	6	0	38.8	32	--	---	--	-	-	12	4	12	5.3	
Burbank	699	993.2	1019.5	67	41	54.2	.2	83	13	32	20	0	1	31	46	.87	-2.19	.56	4	0	.0	0	6.1	S	*29	N	2+	16	5	7	3.5	
Eureka CO	43	1021.3	1023.7	50	39	44.6	-3.6	58	12	32	2+	0	3	--	--	1.83	3.82	.59	8	1	.8	1	7.1	-	33	N	17	10	5	13	5.9	64
Fresno	331	1009.5	1021.6	60	34	47.1	-3.6	72	12+	28	3+	0	13	36	69	1.46	-.20	.93	5	0	T	T	5.5	NW	25	NW	18	18	5	5	3.2	86
Los Angeles CO	312	------	------	67	47	57.0	.6	83	13	39	4+	0	0	33	46	.68	-2.69	.30	5	0	.0	0	7.5	---	38	NW	2	18	4	6	3.0	80
Los Angeles	99	1015.9	1019.7	66	45	55.2	1.1	81	10	38	4+	0	0	36	55	.88	1.87	.37	4	0	.0	0	7.9	W	%48	N	2	19	3	6	3.3	-
Mt. Shasta CO	3544	895.7	1022.4	45	25	35.0	-1.9	64	14	9	27+	0	26	--	--	1.02	4.20	.64	5	0	13.0	9	--	---	-	-	-	11	6	11	5.1	-
Oakland	3	1022.0	1022.6	58	39	48.3	-2.4	66	15	32	4+	0	2	38	71	1.05	-2.35	.81	5	0	.0	0	5.6	WSW	*27	N	18+	15	7	6	3.8	--
Red Bluff	341	1009.5	1022.3	59	36	47.5	-2.4	67	10	25	28	0	7	29	54	.09	-3.44	.07	2	0	0	0	9.3	NNW	45	SE	26	12	7	9	4.7	78
Sacramento	17	1020.7	1021.7	59	36	47.6	-2.1	66	12+	28	4	0	4	34	64	1.02	-1.74	.76	3	0	.0	0	9.5	NW	43	NW	18	14	9	5	3.8	76
Sandberg	4517	864.2	1020.0	46	32	39.1	-1.7	67	15	21	4+	0	17	--	--	.71	-2.01	.36	5	0	3.5	3	----	---	--		--	15	5	8	3.8	--
San Diego	19	1016.3	1019.5	65	46	55.5	-.8	79	11	38	3+	0	0	37	55	.56	-1.70	.25	5	0	.0	0	6.3	NE	25	NW	2	15	7	6	3.9	76
San Francisco CO	52	------	------	59	46	52.2	-.8	67	15	41	2+	0	0	-		1.18	-2.73	.91	6	0	T	T	7.1		27	SW	26	16	8	4	3.3	78
San Francisco	1	1021.3	1022.0	58	40	48.7	-2.1	66	15	32	4	0	1	39	72	1.51	-1.93	1.22	6	0	T	0	8.9	WNW	35	WNW	1	13	8	7	4.3	-
Santa Maria	238	1012.2	1020.9	61	37	48.8	-3.0	74	15	29	4	0	7	36	65	1.22	-1.25	.63	5	0	.0	0	6.4	WNW	*23	WNW	1	19	1	8	3.3	-
COLORADO																																
Alamosa	7538	768.4	1022.2	37	-2	17.5	-5.5	53	15	-19	20	0	28	--	--	.15	.03	.08	4	0	1.8	1	--	--			-	14	7	7	4.4	--
Colorado Springs	6173	806.6	1018.6	41	11	26.4	-5.4	61	14	-6	20	0	28	8	51	.57	.24	.25	7	0	9.0	4	10.7	NNE	*46	NW	28	13	8	7	4.1	-
Denver	5292	835.1	1017.6	40	14	27.1	-4.9	58	17	-5	20	0	27	11	56	.85	.32	.51	8	0	12.2	7	9.9	S	34	W	9	8	10	10	5.8	65
Grand Junction	4849	861.8	1024.4	32	11	21.5	-10.5	49	16	-3	20	0	28	14	72	1.05	.42	.22	12	0	14.9	4	7.1	NW	34	NW	18	8	6	14	5.8	60
Pueblo	4639	854.7	1018.1	44	12	27.7	-6.4	65	17	-6	5	0	28	13	57	.45	-.03	.27	9	0	5.4	3	8.7	WNW	50	W	9	12	8	8	4.8	73
CONNECTICUT																																
Bridgeport	7	1022.0	------	39	24	31.8	2.8	55	28	0	3	0	22	--	-	2.61	-.36	.85	13	0	3.5	2	- -		--	---	-	10	7	11	5.3	--
Hartford	169	1016.3	1022.6	39	22	30.4	2.3	54	28	-4	3	0	25	21	71	3.42	.85	1.10	11	0	5.3	2	11.2	S	38	NW	13	8	7	13	6.4	54
New Haven	6	1018.5	1022.7	39	24	31.2	2.1	55	28	0	3	0	24	--	--	3.53	.23	1.16	12	0	4.3	3	7.1	-	26	S	6+	10	5	13	5.6	60
DELAWARE																																
Wilmington	73	1020.0	1023.4	44	24	34.1	.4	62	28	3	3	0	23	26	75	2.93	.05	1.07	10	0	8.5	4	8.5	S	-	---	--	9	7	12	5.8	-
DIST. OF COLUMBIA																																
Washington CO	72	------	------	47	29	38.0	.5	68	28	9	3	0	17	-	-	3.70	1.06	1.10	9	0	5.9	4	7.6		30	W	12				- -	--
Wash. Nat'l. AP	14	1019.4	1024.0	47	29	37.8	.7	67	28	10	3	0	18	27	68	3.13	.69	.92	9	0	4.2	2	10.5	S	34	NW	11	8	7	13	5.8	51
FLORIDA																																
Apalachicola CO	13	1020.9	1022.1	64	50	56.8	-.1	72	28+	27	13	0	2	--	--	2.30	-1.64	2.21	6	1	0	0	9.3		28	N	4	9	9	10	5.2	85
Daytona Beach	33	1021.3	1023.0	70	50	60.2	-.3	79	28+	30	13+	0	2	53	78	1.43	-.97	.78	5	1	.0	0	11.4	E	*33	SW	11	5	10	13	6.4	--
Fort Myers	15	1021.0	------	76	53	64.5	-1.1	82	10+	32	13	0	1	--	76	1.16	-.78	.41	5	1	.0	0	9.5	---	*29	NNW	11	7	11	10	6.0	--
Jacksonville CO	18	------	------	68	50	58.8	.1	83	23	26	13	0	2	--	--	2.36	-.24	1.76	3	--	.0	0	----	--	-	--	--			--		-
Jacksonville	24	1023.4	1023.4	69	48	58.5	1.0	81	28+	24	13	0	2	47	72	2.46	-.20	1.96	3	0	.0	0	10.8	NE	42	W	11	5	9	14	6.5	63
Key West CO	9	1019.1	------	77	64	70.4	-1.2	83	8	48	13	0	0	-	--	.05	-1.59	.03	2	0	.0	0	9.6		29	N	12	6	18	4	5.4	78
Lakeland CO	214	------	------	72	53	62.5	-.9	81	28	30	13	0	2	--	--	2.05	-.27	1.58	4	1	.0	0	7.4	---	--	---	--	6	11	11	6.2	44
Miami CO	8	------	------	73	62	67.4	-1.3	81	3	39	13+	0	0	--	--	.86	-.87	.23	10	1	.0	0	13.8	--	42	E	4	4	17	7	6.0	57
Miami	8	1017.5	1020.8	76	60	67.7	-1.0	83	11	40	13+	0	0	57	72	.76	-1.02	.33	8	1	0	0	11.4	ENE	*27	SE	6	3	14	11	6.6	
Miami Beach	9	------	------	74	64	68.6	-1.6	80	11	41	13	0	0	--	--	1.12	-.63	.45	11	0	0	0	-			---		5	6	17	- -	
Orlando	111	1018.3	1023.0	73	51	62.2	-1.0	84	7	31	13	0	2	52	75	1.12	-.93	.54	5	0	0	0	10.1	ENE	*32	S	6	4	14	10	6.4	-
Pensacola CO	13	1019.7	------	64	49	56.7	.7	74	2	24	12	0	3	-	--	10.25	6.32	9.16	7	0	.0	0	---	--	33	SE	5	--	--	-	--	48
Tallahassee	64	1020.1	1022.8	69	45	56.6	1.0	79	28	23	13	0	3	45	72	2.65	-1.39	1.78	6	2	.0	0	7.2	SSE	--	---	--	4	11	13	6.4	-
Tampa	19	1021.0	1022.5	73	52	62.3	-.6	80	6	31	13	0	1	51	72	2.73	.23	2.35	3	1	.0	0	10.0	E	*29	NW	11	6	13	9	5.8	64
West Palm Beach	15	1020.0	1021.0	76	59	67.3	-.4	82	11+	40	12	0	0	57	71	2.09	-.12	1.97	3	2	.0	0	14.7	E	*35	ENE	4	3	13	12	6.9	--
GEORGIA																																
Atlanta	977	980.3	1023.2	58	38	47.6	.9	72	28+	13	12	0	5	37	69	3.98	-.84	2.56	10	0	T	0	10.2	E	41	NW	11	6	8	14	6.6	47
Athens	798	993.5	------	58	36	47.2	.6	71	28+	14	13	0	9	-	--	4.55	-.42	1.72	8	0	T	0	---	--		-	-	8	7	13	6.2	--
Augusta	143	1016.6	1023.6	63	37	50.2	-.3	77	28	16	13	0	12	39	69	1.88	-1.85	1.49	6	0	.0	0	8.1	NE	*40	WNW	11	6	6	16	6.7	--
Columbus	385	1008.7	1023.3	63	39	51.0	1.4	77	27	17	13	0	6	--	--	4.02	-.65	2.03	9	0	.0	0	--			---	--	5	6	17	7.1	--
Macon	356	1008.8	1022.8	64	41	52.3	.8	78	28	18	13+	0	5	39	65	2.75	-1.52	2.09	8	1	.0	0	8.1	ENE	30	W	11	6	7	15	6.6	56
Rome	637	999.4	1023.0	57	33	45.3	.3	75	28	10	13+	0	12	--	-	7.15	1.75	3.84	11	1	T	T	- -	---	-	---	--	5	7	16	7.0	-
Savannah	48	1021.2	1023.9	66	41	53.3	-.6	81	28	20	13	0	6	43	72	1.53	-1.29	1.26	4	0	.0	0	11.0	NE	36	NW	11	7	8	13	6.3	63
IDAHO																																
Boise	2842	923.8	1023.4	35	19	27.2	-6.8	45	8	5	4	0	27	20	73	.43	-.92	.16	9	0	4.1	5	9.9	SE	35	SE	24	6	8	14	6.6	49
Idaho Falls 46W CO	4933	848.6	1024.7	27	-2	12.6	-8.0	38	8+	-21	11	0	28	--	-	.21	-.36	.08	5	0	3.6	5	9.2	---	a36	SW	8+	-	--	--	--	-
Idaho Falls 43NW CO	4780	------	------	25	2	13.4	-5.1	40	8	-24	23	0	28	--	--	.34	-.03	.12	6		--	--	9.7		a46	SSW	28	-	--		--	
Lewiston	1413	968.5	1021.7	43	25	33.7	-2.2	55	7+	14	20	0	26	--	--	.62	-.38	.23	10	0	7.1	3			--	--	-	2	5	21	8.3	-
Pocatello	4444	863.9	1023.1	31	11	21.0	-7.5	41	15	-8	19	0	28	14	72	1.04	.11	.24	13	0	16.3	9	13.7	SW	54	W	9	2	3	23	8.6	36
ILLINOIS																																
Cairo CO	314	1008.5	------	49	33	40.5	-.1	73	27	4	11	0	15	--	--	3.09	.24	.99	11	1	.5	T	10.6	--	33	SW	9	7	7	14	6.1	53
Chicago	610	998.0	1021.9	36	21	28.8	1.4	51	19+	-8	11	0	23	20	70	1.83	.42	.66	11	0	6.5	4	12.3	S	29	N	10	5	7	16	7.3	40
Moline	589	993.3	1022.6	35	16	25.3	-1.3	50	20	-10	11	0	25	19	78	1.88	.71	.65	9	0	6.1	6	12.7	WNW	47	SW	20	9	4	15	6.2	50
Peoria	654	998.6	1021.9	36	20	28.1	-.2	52	19	-10	11	0	23	22	77	2.44	.53	1.24	7	0	3.1	6	11.7	---	31	N	10	9	5	14	6.3	53
Springfield	587	998.0	1022.2	40	23	31.5	.7	61	9	-7	11	0	23	24	76	2.76	1.14	1.23	9	1	2.4	2	15.0	S	32	N	10+	7	7	14	6.6	46
INDIANA																																
Evansville	383	1005.8	1022.3	46	28	37.2	-.3	70	28	1	11	0	19	29	75	5.17	2.22	2.37	10	1	.1	T	10.8	SSW	34	SW	9	4	6	18	7.6	37
Fort Wayne	801	989.5	1022.0	38	20	29.2	1.2	54	20	-3	13	0	25	24	79	2.33	.56	.66	11	1	7.4	3	12.5	S	32	S	5	3	8	17	7.5	47
Indianapolis	793	992.6	1022.5	41	24	32.2	.7	65	28	-5	11	0	23	25	76	2.34	.26	.74	12	1	4.5	1	13.8	NNW	33	NW	28	4	8	16	7.0	55
South Bend	768	992.9	1022.0	35	18	26.8	.4	48	20	-10	13	0	24	22	80	1.93	.37	.50	12	0	14.8	12	10.4	S	*26	ESE	4	4	3	21	7.8	--

See footnotes at end of table.

Table 2–Continued

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet, Hail		Average hourly speed	Prevailing direction	Fastest mile			Clear	Partly cloudy	Cloudy		
												Max. 90° F or above	Min 32° F or below						.01 inch or more	With thunderstorms	Total	Max. depth on ground			Speed	Direction	Date					
	Ft	Mb.	Mb.	°F	°F	°F.	°F.	°F.		°F				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
IOWA																																
Burlington	694	995.3	1022.3	36	18	26.9	1.1	51	19	-9	11	0	24	20	77	1.82	0.41	0.96	8	0	3.7	4	11.2	SE	42	NW	10	10	8	10	5.9	60
Des Moines	948	989.5	1022.2	31	14	22.1	-3.9	45	25	-12	12	0	27	16	78	1.52	.44	.76	7	0	6.8	9	14.2	NW	48	W	20	7	6	15	6.7	46
Dubuque	1065	980.4	1021.7	30	12	20.9	1.7	45	20	-14	11	0	26	16	79	1.49	.38	.47	12	0	5.6	4	----	---	--	---	--	7	6	15	6.4	--
Sioux City	1094	978.0	1021.7	27	7	17.1	6.1	48	15	-14	12	0	28	11	77	1.02	.27	.44	8	0	10.6	6	14.9	SSE	42	N	9+	3	7	18	7.8	40
KANSAS																																
Concordia CO	1375	968.8	------	35	16	25.4	-7.5	51	14	-3	12	0	28	--	71	1.02	.17	.70	8	0	9.8	8	8.6	---	26	N	10	6	11	11	6.3	52
Dodge City	2594	928.2	1019.3	42	17	29.8	5.2	66	28	2	12	0	28	19	70	.58	-.20	.44	6	0	4.1	2	16.1	NW	56	NE	10+	8	9	11	5.5	68
Goodland	3645	887.2	1018.5	39	14	26.0	-4.2	66	17	2	12+	0	28	17	73	.99	.51	.52	9	0	8.6	4	10.7	NNW	*38	NNW	19	9	8	11	6.0	--
Topeka	879	984.1	1021.7	38	19	28.2	-5.2	54	26	-3	12	0	27	20	73	2.52	1.55	.98	8	0	13.8	9	12.0	NNW	45	N	10	5	8	15	7.0	42
Wichita	1321	967.2	1020.2	43	22	32.3	4.9	67	28	4	12	0	28	24	76	1.71	.73	1.35	6	1	5.5	3	14.7	N	43	N	10	8	8	12	5.8	60
KENTUCKY																																
Lexington	979	985.6	1022.6	45	28	36.4	1.9	69	27	-4	12	0	18	28	76	7.69	4.19	1.98	14	3	4.6	4	14.5	SSE	--	---	--	5	7	16	7.2	--
Louisville	474	1002.7	1022.5	46	29	37.6	.4	71	27	3	11	0	16	29	74	6.93	3.94	1.71	13	1	1.9	2	9.1	SE	38	S	9	4	6	18	7.4	36
LOUISIANA																																
Baton Rouge	64	1017.6	1020.8	66	46	55.5	-.1	81	28	24	12	0	3	45	72	5.52	1.16	3.40	8	3	.0	0	11.5	N	--	---	--	6	7	15	6.5	--
Lake Charles	12	1019.3	1020.9	64	47	55.6	-.3	77	28	27	11	0	2	47	78	7.35	2.82	3.69	9	7	.0	0	10.7	ESE	*40	SE	4	6	6	16	6.7	--
New Orleans CO	9	1019.0	--- --	67	51	58.7	.2	81	28	34	11	0	0		--	6.38	2.20	4.66	8	1	T	0	7.5	---	22	NW	11	5	11	12	6.3	44
New Orleans	3	1019.0	1021.2	67	49	58.0	.6	81	28	30	12	0	2	50	77	5.16	1.19	3.69	9	2	.0	0	11.8	S	*40	NE	5	7	7	14	6.3	--
Shreveport	252	1011.2	1021.0	60	39	49.9	1.8	80	28	18	11	0	10	41	74	4.43	.65	2.22	6	2	T	T	13.5	S	--	---	--	5	7	16	6.9	45
MAINE																																
Caribou	624	997.0	1021.8	24	6	15.1	5.3	43	12	-41	1	0	27	9	74	4.13	2.40	1.35	14	0	38.8	50	10.2	NW	*52	SSE	12	6	3	19	7.3	--
Portland	61	1017.5	1021.7	35	18	26.7	5.2	52	10	-10	3	0	24	19	76	5.01	1.18	1.28	14	0	18.6	11	10.6	NW	38	SW	11	8	7	13	6.3	55
MARYLAND																																
Baltimore CO	14	-----	------	46	29	37.6	.3	64	10	10	3	0	17	--	--	2.82	-.17	1.06	9	--	----	--	----	---	--	---	--	--	--	--	---	--
Baltimore	146	1017.0	1023.9	45	24	34.4	-.6	64	28	6	3	0	25	26	74	2.68	-.31	1.00	10	0	6.2	2	12.2	NW	43	NW	12	9	7	12	5.6	51
Frederick	294	- ---	------	42	22	32.2	-1.9	68	28	1	4	0	23	--	--	2.75	.17	1.15	11	0	6.2	2	----	---	--	---	--	--	--	--	---	--
MASSACHUSETTS																																
Blue Hill Obs.	629	997.1	1021.4	38	21	28.8	3.1	53	12+	-7	3	0	24	--	76	4.22	.68	1.75	12	1	8.5	5	15.7	NW	56	SSW	11	9	7	12	5.8	49
Boston	15	1017.3	1021.7	39	25	32.0	2.8	57	10	-1	3	0	19	22	68	4.11	1.18	1.67	11	0	6.5	4	14.2	NW	*48	S	11	9	5	14	6.3	58
Nantucket	43	1021.1	1021.9	38	27	32.5	1.4	51	11	12	13+	0	19	27	83	2.77	-.65	.90	11	0	6.0	5	15.5	NNW	49	S	11	7	6	15	6.9	40
Pittsfield	1153	979.1	1023.7	34	15	24.7	3.0	53	20	-14	3	0	25	--	--	3.91	1.40	1.29	14	0	20.7	11	----	---	--	---	--	--	--	--	---	--
MICHIGAN																																
Alpena CO	587	999.0	---- -	29	14	21.4	1.5	39	9+	-7	4	0	27	--	--	.92	-.53	.17	15	0	13.1	16	10.2	---	29	NW	12	3	7	18	7.8	36
Detroit	619	994.6	1022.6	35	22	28.4	1.7	48	9	1	12	0	25	22	77	2.49	.47	.71	9	1	10.9	4	9.5	N	29	NW	12	5	6	17	7.5	35
Detroit (Willow Run)	722	992.6	1022.2	35	21	28.0	1.9	47	9+	3	3+	0	25	22	78	2.31	.57	.78	10	1	8.7	3	10.7	SW	*28	ENE	2	6	5	17	7.3	--
East Lansing CO	856	- - --	--- -	34	19	26.6	2.4	49	29	0	3	0	26	--	--	1.89	.08	.53	10	0	13.4	6	5.8	---	16	NE	2	--	--	--	---	51
Escanaba CO	594	998.3	------	27	10	18.5	.9	39	20	-3	13	0	28	--	--	1.00	-.37	.71	10	0	3.7	9	9.9	---	30	N	26	7	6	15	6.8	41
Grand Rapids	681	995.6	1022.0	33	17	25.2	1.4	47	20	-3	4	0	27	21	81	1.52	-.15	.44	14	0	12.7	9	10.6	ESE	26	SW	21	2	7	19	8.0	45
Marquette CO	677	993.2	------	27	14	20.2	1.3	42	20	2	13	0	28	--	71	1.23	-.49	.27	15	0	12.2	16	8.9	---	29	S	20	1	4	23	8.6	30
Muskegon	627	997.6	1022.0	32	18	25.3	.8	45	20	-3	4	0	27	20	78	1.86	.22	.32	13	0	17.5	12	----	---	--	---	--	3	3	22	8.2	--
Sault Ste Marie	721	999.7	1023.1	25	8	16.3	2.8	38	20	-11	2	0	28	10	78	1.41	-.11	.46	16	0	13.3	16	9.5	E	*23	ESE	19+	7	2	19	6.9	39
MINNESOTA																																
Duluth	1409	978.0	1021.7	20	0	10.1	-.9	33	17+	-18	11	0	28	4	75	1.64	.42	.49	14	0	31.5	30	12.5	NNW	36	NE	20	4	7	17	7.4	54
Intern'l Falls	1179	974.6	1022.8	17	-8	4.5	-2.7	37	17	-30	24	0	28	5	66	1.81	.94	.98	12	0	25.8	27	9.1	---	--	---	--	10	2	16	6.2	--
Minneapolis	830	986.8	1022.7	24	5	14.4	-3.8	37	17	-16	11	0	28	8	76	1.54	.64	.54	8	0	11.0	10	11.6	SE	40	S	20	9	7	12	5.8	57
Rochester	1017	982.7	1022.0	25	5	15.2	-2.8	40	20	-16	11	0	27	10	80	1.14	.39	.50	7	0	4.7	4	10.0	SSE	--	---	--	9	8	11	5.7	--
St. Cloud	1034	981.4	1022.1	21	-3	9.4	-4.2	35	17	-22	12	0	28	4	76	1.58	.86	.54	9	0	10.8	8	7.9	NW	--	---	--	9	6	13	6.1	--
MISSISSIPPI																																
Jackson	315	1009.1	1021.6	60	40	49.9	-1.1	79	28	20	11	0	6	41	73	5.43	.34	2.16	9	1	.0	0	11.3	N	45	NW	11	6	7	15	6.6	46
Meridian	294	1007.2	------	62	39	50.2	-.5	80	28	18	13+	0	9	--	--	5.28	-.10	2.74	7	4	.0	0	----	---	--	---	--	7	6	15	6.4	--
Vicksburg CO	234	978.0	------	60	42	50.7	-1.4	78	28	22	11	0	6	--	--	7.14	2.00	3.05	7	2	.0	0	10.4	---	35	NW	10	6	7	15	6.5	49
MISSOURI																																
Columbia	778	991.5	1021.1	42	23	32.9	-.8	66	9	-5	11	0	23	24	73	3.18	1.61	1.73	8	0	1.8	1	11.2	SE	39	N	10	7	7	14	6.5	46
Kansas City	741	985.1	1021.5	41	22	31.5	3.1	62	26	0	12	0	25	23	71	3.27	2.11	1.65	8	3	7.5	5	10.0	S	35	N	10	3	10	15	7.0	40
St. Joseph	809	- ----	------	36	15	25.4	6.4	52	25	-8	12	0	27	--	--	2.82	1.81	1.88	8	0	10.8	10	----	---	--	---	--	--	--	--	---	--
St. Louis CO	465	1000.3	------	45	28	36.4	-.3	66	28	-3	11	0	19	--	--	3.16	1.28	1.29	10	1	.8	1	12.2	---	39	SW	9	5	9	14	6.9	51
St. Louis	552	1000.3	1021.7	45	26	35.9	.2	68	9	-3	11	0	22	25	70	3.45	1.79	1.64	9	0	.4	T	11.2	SE	--	---	--	6	9	13	6.6	--
Springfield	1265	971.6	1020.6	45	25	35.2	-1.6	74	28	0	11	0	24	28	76	5.34	3.58	2.60	11	5	.1	T	15.3	SSE	40	SW	28	8	5	15	6.4	56
MONTANA																																
Billings	3568	891.0	1019.9	31	10	20.5	-5.6	53	8	-12	19+	0	28	13	70	1.57	1.13	.43	15	0	22.3	8	12.4	WSW	43	W	8	2	7	19	7.9	53
Glasgow CO	2090	942.4	1021.3	23	0	11.5	-3.2	46	7	-21	10	0	28	7	75	.59	.25	.18	11	0	10.3	8	8.1	NW	--	---	--	1	9	18	8.0	--
Great Falls	3664	887.9	1019.6	31	12	21.6	-3.0	53	16	-11	27	0	26	11	67	1.47	.90	.31	13	0	18.3	6	17.4	SW	66	SW	6	2	5	21	8.3	43
Havre CO	2488	927.9	1021.2	29	6	17.7	-1.2	52	16	-17	28	0	28	10	71	.35	-.04	.11	9	0	7.8	4	7.9	---	32	SW	28	3	5	20	7.9	43
Helena	3893	873.4	1021.5	32	10	20.7	-2.7	54	16	-11	27	0	28	10	65	.20	-.21	.05	7	0	3.3	1	8.6	WNW	36	W	9	2	3	23	8.5	50
Kalispell	2965	------	------	30	12	20.9	-4.1	44	16	-4	18	0	28	--	--	1.00	.08	.27	13	0	16.3	10	----	---	--	---	--	1	3	24	9.0	--
Miles City	2629	933.3	1021.2	28	6	17.2	-2.9	51	16	-16	23	0	28	10	--	.63	.27	.20	12	0	8.4	5	8.5	NNW	*37	WNW	5	2	6	20	8.2	--
Missoula	3200	903.5	1022.3	32	13	22.4	-3.3	45	7	-2	10	0	28	15	74	.87	05	.25	14	0	11.4	4	5.5	E	37	NW	9	1	3	24	8.8	37
NEBRASKA																																
Grand Island	1841	951.6	1021.0	30	10	20.0	-7.7	44	14	-11	12	0	28	14	78	.80	.14	.46	7	0	9.6	7	12.4	WSW	--	---	--	3	8	17	7.5	--
Lincoln CO	1184	------	------	32	14	22.7	-6.6	47	14+	-7	12	0	28	--	--	.64	-.28	.37	7	0	5.4	6	9.8	---	37	W	20	5	8	15	7.1	48
Norfolk	1544	963.4	1022.0	29	7	17.9	-5.7	46	15	-14	12	0	28	13	78	.62	-.17	.31	4	0	6.7	5	----	---	--	---	--	4	7	17	7.4	--
North Omaha	1323	971.2	------	27	9	18.4	---	42	14	-16	12	0	28	--	--	.81	----	.36	6	0	8.5	7	----	---	--	---	--	--	--	--	---	--
North Platte	2779	916.4	1019.9	32	8	20.0	-8.7	49	9+	-8	24	0	28	14	78	1.17	.83	.68	8	0	15.7	9	13.0	N	49	NW	20	5	7	16	6.7	54
Omaha	978	979.7	1021.9	30	11	20.8	-6.4	45	14	-11	12	0	28	14	75	1.06	.19	.44	8	0	7.2	8	13.0	N	43	N	10	5	7	16	7.0	40
Scottsbluff	3950	877.8	1019.3	36	12	23.6	-4.6	58	16	-5	24	0	27	14	68	.62	.21	.26	6	0	11.8	6	12.6	WNW	--	---	--	5	8	15	6.8	--
Valentine CO	2581	923.8	------	29	6	17.6	-8.1	50	16	-16	24	0	27	--	--	1.42	.96	.53	7	0	15.9	10	9.9	---	34	N	19+	7	9	12	6.6	63
NEVADA																																
Elko	5075	846.9	1023.9	33	5	19.1	-9.3	49	8	-12	10	0	28	13	71	.60	-.35	.26	5	0	5.6	9	5.7	WSW	*24	N	18	4	11	13	6.5	--
Ely	6257	808.7	1023.0	33	3	17.9	-10.2	50	15	-16	4	0	28	9	67	.76	-.14	.32	7	0	13.3	9	14.6	---	47	SE	27	12	6	10	4.8	66
Las Vegas	2162	952.9	1019.7	56	31	43.7	-6.7	71	15	21	21+	0	19	15	33	.13	-.45	.13	1	0	T	T	11.0	NNW	*54	NNW	18	15	10	3	3.1	85
Reno	4397	864.5	1022.4	45	19	32.1	-4.2	63	15	-7	28	0	28	19	63	.63	-.42	.56	5	0	5.6	4	6.3	NW	49	S	26	10	9	9	5.3	80
Winnemucca	4299	870.6	1023.0	40	15	27.0	-7.5	55	15	-9	4	0	28	19	68	.30	-.71	.11	6	0	3.9	4	9.6	---	33	N	18	6	10	12	6.0	58
NEW HAMPSHIRE																																
Concord	339	1010.5	1021.9	36	16	25.9	4.7	58	11	-20	3	0	28	18	72	3.74	1.44	.93	11	0	13.7	9	5.6	NW	29	NW	7	7	8	13	6.0	52
Mt. Washington	6262	800.5	-- -	18	3	10.5	5.0	34	22+	-29	13	0	28	--	84	5.02	.27	1.28	20	0	40.8	20	33.0	W	%116	NW	13	6	7	15	7.0	42

See footnotes at end of table

Table 2—Continued

State and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 0.1 inch or more	With thunderstorms	Snow, Sleet, Hail: Total	Max. depth on ground	Wind: Average hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Date	Number of days, sunrise to sunset: Clear	Partly cloudy	Cloudy	Sky cover	[illegible]
	Ft	Mb	Mb	°F	°F	°F	°F	°F		°F				°F	%	In	In	In			In	In	M p h		M p h			0–3	4–7	8–10	0–10	
NEW JERSEY																																
Atlantic City CO	[illegible]	1021.1	- -	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]			[illegible]	-0.25	[illegible]			[illegible]	1	16.1		[illegible]	SE		[illegible]	[illegible]	[illegible]		
Newark	[illegible]	[illegible]	1023.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	19	[illegible]	[illegible]	[illegible]	[illegible]	1.05	[illegible]				[illegible]	NNW	[illegible]	NW	[illegible]		1			
Trenton CO	[illegible]	1015.4	1022.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3	[illegible]	0	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		9.1			NW	[illegible]			[illegible]	[illegible]	
NEW MEXICO																																
Albuquerque	5310	[illegible]	1017.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	NNW	[illegible]	S	[illegible]	[illegible]			[illegible]	
Clayton	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			20		[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]							[illegible]		3.9		
Roswell	[illegible]	893.3	1016.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12		[illegible]		[illegible]	T	[illegible]	1				1	[illegible]		[illegible]	W	[illegible]	[illegible]		[illegible]	2.8	
NEW YORK																																
Albany	277	[illegible]	[illegible]	33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18	3		24	18	[illegible]	3.08	[illegible]	[illegible]	[illegible]	[illegible]				N	[illegible]	[illegible]	[illegible]		[illegible]			
Binghamton	1601	[illegible]	[illegible]	[illegible]	[illegible]	24.0	[illegible]	[illegible]	20	[illegible]	[illegible]	0	24	[illegible]	[illegible]	3.69	[illegible]	1.29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NW	[illegible]	NW	[illegible]			[illegible]		[illegible]
Buffalo	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27.9	[illegible]	[illegible]	20	-1	[illegible]	0	23	[illegible]	79	[illegible]	[illegible]		[illegible]	[illegible]	12	[illegible]	[illegible]	S	[illegible]	SW	[illegible]	[illegible]	[illegible]		4	
New York CO	[illegible]	1010.6		42	[illegible]	34.7	[illegible]	[illegible]	28	[illegible]	3	0	17		-	[illegible]	[illegible]	1.01	[illegible]	[illegible]	5.3	1	13.3		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
New York	[illegible]	[illegible]	1023.2	[illegible]	[illegible]	35.2	[illegible]	60	28	1	3		17	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	6.0	[illegible]	12.7	N	[illegible]	NW	[illegible]	[illegible]	1	[illegible]		
Rochester	[illegible]	[illegible]	1022.7	[illegible]	[illegible]	25.8	[illegible]	52	10	-5	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]		.42	[illegible]	[illegible]	[illegible]	[illegible]	13.2			W	[illegible]		[illegible]		[illegible]	
Schenectady	[illegible]	-	-	[illegible]	[illegible]	26.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24			[illegible]	[illegible]	.69	[illegible]		15.5									[illegible]		
Syracuse	424	[illegible]	[illegible]	33	[illegible]	25.5	[illegible]	[illegible]	[illegible]	[illegible]	3	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	26.8	[illegible]	[illegible]	E		S	[illegible]		[illegible]			[illegible]
NORTH CAROLINA																																
Asheville CO	2203	- --	-----	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]			3.09	[illegible]	[illegible]		[illegible]		T	[illegible]		[illegible]	NW	[illegible]	[illegible]		12		[illegible]
Charlotte	753	[illegible]	[illegible]	[illegible]	34	[illegible]	[illegible]	[illegible]	[illegible]	11	13	[illegible]	12	[illegible]	[illegible]	3.79	[illegible]	[illegible]				[illegible]	[illegible]	NE	[illegible]	NW	[illegible]	[illegible]		1	[illegible]	
Greensboro	[illegible]	991.5	1024.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	19	[illegible]	[illegible]	3.99	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		7	13	[illegible]	
Hatteras CO	4	1023.3	1024.1	[illegible]	[illegible]	45.3	-2.2	[illegible]	[illegible]	[illegible]	13	[illegible]	6	[illegible]	[illegible]	1.01	[illegible]	[illegible]	[illegible]	[illegible]	1		14.2	N	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]
Raleigh	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43.7	.6	[illegible]	[illegible]	[illegible]	[illegible]		18	[illegible]	[illegible]	3.93	.38	[illegible]		[illegible]		[illegible]	10.0	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wilmington	30	1023.0	-	[illegible]	[illegible]	48.0	-.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	-		1.91	-1.39	[illegible]	[illegible]	[illegible]		[illegible]	10.6		[illegible]	SW	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
Winston-Salem	[illegible]	987.6	[illegible]	53	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13+	[illegible]	19	[illegible]	[illegible]	4.30	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	NW		[illegible]		[illegible]	[illegible]	
NORTH DAKOTA																																
Bismarck	[illegible]	958.3	1022.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-29	[illegible]	[illegible]	28	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	NNW	[illegible]	NW	[illegible]	[illegible]	[illegible]	11		[illegible]
Devils Lake CO	1471	[illegible]	- -	[illegible]	-4	5.3	[illegible]	[illegible]	[illegible]	25	[illegible]	[illegible]	[illegible]	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.1		8.9		[illegible]	N	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
argo	895	986.1	1023.0	[illegible]	1	5.8	[illegible]	[illegible]	17	-26	[illegible]	0	28	[illegible]	[illegible]	[illegible]	31	47	6	0	12.0	[illegible]	[illegible]	SSE	[illegible]	N	[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]
illiston CO	1877	950.6	1022.3	[illegible]	[illegible]	[illegible]	[illegible]	42	[illegible]	[illegible]	[illegible]	[illegible]	28	3	70	[illegible]	[illegible]	24	[illegible]		5.2	[illegible]	6.6		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OHIO																																
kron	[illegible]	[illegible]	1023.2	37	[illegible]	[illegible]	[illegible]	56	[illegible]	-1	12+	[illegible]	24	21	76	[illegible]	[illegible]	[illegible]	5	[illegible]	[illegible]	[illegible]	11.8	[illegible]				[illegible]		[illegible]	[illegible]	
incinnati Obs.	761		--	44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	12+	0	[illegible]	--	[illegible]	6.24	[illegible]	1.64	[illegible]	[illegible]	[illegible]	[illegible]	7.4			SW	27+					[illegible]
incinnati	[illegible]	989.5	1022.6	43	[illegible]	[illegible]	1.0	[illegible]	[illegible]	0	12	0	21	26	[illegible]	6.72	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	11.2	SSW	*[illegible]	SSW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
leveland CO	[illegible]		- -	38	25	[illegible]	1.2	[illegible]	28	4	12	[illegible]	[illegible]		-	2.07	[illegible]	[illegible]	[illegible]	[illegible]												
leveland	787	993.7	[illegible]	38	24	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	24	23	75	2.69	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	9.9	S	[illegible]	NW	[illegible]	[illegible]			[illegible]	[illegible]
olumbus CO	724	-	-	[illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	19		-	[illegible]	1.14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-									
olumbus	815	991.3	1023.1	[illegible]	[illegible]	32.1	[illegible]	[illegible]	28	-2	[illegible]	[illegible]	24	26	78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.7	1	9.8	[illegible]	[illegible]	W	[illegible]		[illegible]	[illegible]	5	[illegible]
ayton	1002	[illegible]	1022.7	[illegible]	24	[illegible]	[illegible]	63	28	-1	[illegible]	[illegible]	22	[illegible]	76	[illegible]	1.16	[illegible]	3	[illegible]	4.9	[illegible]	9.6	[illegible]	[illegible]	NW	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
ortsmouth CO	715	998.2	-	[illegible]	26	[illegible]	[illegible]	[illegible]	27	-5	[illegible]	0	20	--	--	5.41	2.78	1.54	[illegible]	0	4.0	1	5.8		*[illegible]	SW	[illegible]					
andusky CO	[illegible]	999.3	-	37	[illegible]	[illegible]	[illegible]	58	28	4	12	0	24	-	[illegible]	[illegible]	.38	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	NE		5	6	17		
oledo	676	995.8	1022.5	[illegible]	22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13	[illegible]	25	21	74	[illegible]	.74	[illegible]	[illegible]	[illegible]	5.9	[illegible]	11.0	S	[illegible]	S	[illegible]	4	[illegible]			[illegible]
oungstown	1178	978.5	1022.9	[illegible]	21	[illegible]	.5	[illegible]	[illegible]	-3	[illegible]	[illegible]	24	[illegible]	79	[illegible]	.09	[illegible]	15	[illegible]	13.5	[illegible]	[illegible]	SSW	*[illegible]	WNW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
OKLAHOMA																																
klahoma City	1280	975.3	1020.3	[illegible]	[illegible]	39.8	-2.0	76	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]	68	[illegible]	[illegible]	[illegible]	4	[illegible]		T	15.1	[illegible]	[illegible]	NW	1		[illegible]			
ulsa	672	994.9	1020.2	[illegible]	[illegible]	40.9	-1.1	[illegible]	[illegible]	8	11	0	17	30	69	[illegible]		[illegible]	6	[illegible]	[illegible]	T	12.5	[illegible]	[illegible]	S	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OREGON																																
storia	8	[illegible]	1022.6	[illegible]	35	[illegible]	[illegible]	[illegible]	11	[illegible]	18	[illegible]	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	T	[illegible]	SE					[illegible]			
urns CO	4140	[illegible]	1022.6	37	14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28	[illegible]	[illegible]	[illegible]	-1.02	[illegible]	[illegible]										[illegible]			
ugene	361	[illegible]	1024.4	[illegible]	32	[illegible]	[illegible]	57	[illegible]	[illegible]	[illegible]	[illegible]	14	-	-	[illegible]	-2.78		[illegible]	[illegible]	.3	T										
eacham	4050	--	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	27	--	--	[illegible]	-1.82	[illegible]		[illegible]	[illegible]	[illegible]									[illegible]	
edford	1312	975.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-1.39	[illegible]		[illegible]	1.6	[illegible]	2.0	[illegible]	*[illegible]	NNW	[illegible]	1		[illegible]		
endleton	1492	966.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	23	[illegible]	68	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9.7	W	*[illegible]	W	[illegible]	[illegible]	3	[illegible]		
ortland	22	1017.3	1023.2	[illegible]	[illegible]	40.4	[illegible]	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	S	[illegible]	1		22		[illegible]
oseburg	505	1005.1	[illegible]	[illegible]	31	[illegible]	[illegible]	[illegible]	12	[illegible]	19	0	16	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		T	3.8	[illegible]	[illegible]	S	[illegible]	1		[illegible]		
alem	195	1015.9	1023.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15	[illegible]	80	[illegible]	3.07	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	S				[illegible]	[illegible]			
exton Summit CO	3836	----	----	39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18	[illegible]	0	22			[illegible]	1.49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-									
PENNSYLVANIA																																
llentown	[illegible]	1008.7	1023.6	40	22	[illegible]	[illegible]	[illegible]	[illegible]	-2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.15	[illegible]		[illegible]	[illegible]	[illegible]	NW				[illegible]		[illegible]	[illegible]	
arrisburg	335	1009.2	1023.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28	3	3	[illegible]	22	[illegible]	67	[illegible]	[illegible]	1.04	[illegible]		[illegible]	[illegible]	[illegible]	WNW	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]
hiladelphia CO	[illegible]	----	----	45	[illegible]	[illegible]	[illegible]	65	28	[illegible]	3	[illegible]	15																			
hiladelphia	13	1018.5	[illegible]	45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	3	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	N	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ittsburgh CO	749	------	-----	43	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	4	0	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]											[illegible]
ittsburgh	[illegible]	991.7	[illegible]	40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	21	[illegible]	73	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11.2	WSW	*[illegible]	WSW	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
eading CO	266	1010.8	1023.4	42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	1	11.2		[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
cranton CO	[illegible]	[illegible]	1022.6	38	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	6.0		[illegible]	NW	[illegible]	[illegible]	[illegible]			
illiamsport	527	1003.6	--- --	39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-5	[illegible]	[illegible]	23	-	-	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]						[illegible]	[illegible]	[illegible]	[illegible]	
RHODE ISLAND																																
lock Island	110	1017.1	1021.8	[illegible]	[illegible]	32.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21			[illegible]	[illegible]	1.00	[illegible]		[illegible]							[illegible]	[illegible]	[illegible]	[illegible]	
rovidence	55	1015.7	1022.1	[illegible]	[illegible]	31.5	2.9	[illegible]	[illegible]	[illegible]	3	[illegible]	22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
SOUTH CAROLINA																																
harleston CO	9	---	---	[illegible]	[illegible]	52.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			1.56	-1.51	1.12	[illegible]	[illegible]	[illegible]	[illegible]	10.8		[illegible]	[illegible]		[illegible]			[illegible]	
harleston	41	1022.3	1024.1	64	[illegible]	52.1	[illegible]	79	28	21	12	[illegible]	[illegible]	[illegible]	[illegible]	1.69	-1.44	1.42	4	[illegible]			12.2	NNE				[illegible]		[illegible]		
olumbia	217	1014.9	1023.8	[illegible]	[illegible]	49.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]	2.17	1.46	1.37	[illegible]	[illegible]	[illegible]	[illegible]	8.6	NE	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]
lorence	[illegible]	1018.3	-	62	[illegible]	49.2	[illegible]	80	28	16	13	[illegible]	11	-		1.66	1.64	1.25				[illegible]										
reenville	[illegible]	984.6	[illegible]	[illegible]	[illegible]	45.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.01	-.25	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	ENE	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	
partanburg	801			[illegible]	[illegible]	45.4		[illegible]	[illegible]	[illegible]	13	[illegible]	10	--	-	3.99	-.24	3.11	[illegible]						[illegible]	[illegible]	[illegible]					
SOUTH DAKOTA																																
uron	1282	971.6	1021.8	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SSE	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	
pid City	3165	900.8	1019.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-10	[illegible]	[illegible]	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1		[illegible]	1	
oux Falls	[illegible]	967.8	1021.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]		[illegible]	NNE								
TENNESSEE																																
istol	1519	967.1	--	[illegible]	[illegible]	40.1	[illegible]	[illegible]	[illegible]	-2	13	[illegible]	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]									[illegible]		
attanooga	670	994.5	1023.2	[illegible]	[illegible]	[illegible]	1.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]	[illegible]					[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	5				
oxville	[illegible]	986.2	1023.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28	6	13	[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	1.92	[illegible]	[illegible]		[illegible]		NE		[illegible]						[illegible]
mphis CO	271	-----	-----	52	[illegible]	44.2		[illegible]	[illegible]	9	11	0	11			[illegible]	[illegible]	2.02	[illegible]		1	[illegible]										
mphis	263	1006.9	[illegible]	53	[illegible]	44.2	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	12	[illegible]	[illegible]	[illegible]	[illegible]	1.78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
shville	577	1002.2	[illegible]	[illegible]	[illegible]	41.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15	[illegible]	[illegible]	[illegible]	[illegible]	2.17	[illegible]	[illegible]	2.0	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	7		7.4	1
k Ridge CO	905	988.1	--- -	53	[illegible]	41.8	[illegible]	[illegible]	[illegible]	5	13	[illegible]	14	[illegible]	[illegible]	[illegible]	1.59	2.38	[illegible]		3.5	[illegible]	[illegible]	[illegible]		[illegible]			4			

See footnotes at end of table

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days								No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb	Mb.	°F.	°F.	°F.	°F.	°F.		°F				°F	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
TEXAS																																
Abilene	1759	956.3	1018.4	60	36	48 0	-0.1	82	28	16	20	0	9	32	59	0.72	-0.19	0.72	2	2	T	0	14.7	SSE	53	SW	13	11	4	13	5.6	60
Amarillo	3590	888.3	1017.2	53	22	37.6	-2.0	74	9	4	20	0	26	13	43	.06	-.56	.05	3	0	.2	T	15.7	SW	47	W	28	14	8	6	4.3	77
Austin	615	998.0	1020.4	64	44	53.8	-.3	77	27+	24	11	0	6	43	70	4.22	1.66	1.74	6	2	T	0	12.7	S	34	N	10+	7	3	18	7.0	42
Brownsville	16	1015.6	1018.5	72	56	64.1	.1	82	4+	35	12	0	0	55	77	.84	-.36	.80	4	0	.0	0	14.2	SE	35	NW	10	4	7	17	7.3	53
Corpus Christi	40	1018.0	1019.3	70	51	60.4	1.0	84	1	32	11+	0	2	53	80	1 32	-.12	.99	6	2	.0	0	16.2	SSE	41	N	10	6	6	16	6.7	65
Dallas	487	1000 7	1021 7	59	38	48 9	-.9	74	26	17	11	0	7	37	66	1.93	-.69	1.28	5	1	T	0	11.6	S	38	S	9	9	4	15	6.1	52
Del Rio	1091	983.7	1018 6	67	45	55.8	-1.3	80	19	21	12	0	3	38	57	.33	-.74	.28	3	0	.0	0	10.1	---	31	NW	10	10	7	11	5.6	53
El Paso	3920	886.9	1016.8	60	31	45.4	-3.7	74	14+	22	20+	0	17	14	29	.05	-.31	.05	1	0	T	T	13.2	N	43	W	18	17	6	5	3.4	86
Fort Worth	544	999.3	1020.9	59	38	48 6	-1.2	74	28	17	11	0	10	36	66	2.01	-.56	1.33	6	3	T	T	15.7	S	*35	W	1+	10	4	14	6.0	--
Galveston CO	7	-----	-----	61	51	56.0	-1.4	71	10+	30	11	0	1		--	3 12	.24	1.96	8	-	.0	0	14.1	---	44	NW	10	--	--	--	---	57
Galveston	5	1018 0	1020 7	61	50	55.9	1 4	71	27	28	11	0	1	49	81	3.12	.02	1 53	9	4	.0	0	14.5	SE	--	---	--	5	9	14	6.5	--
Houston CO	41	1014.9	-----	64	48	56.3	-1.4	78	28	25	11	0	1	--	--	5.26	2.45	2.88	9	4	.0	0	12.5	---	36	SE	13	5	7	16	6.8	59
Houston	50	1017.6	1020 7	65	47	56.1	-.5	79	28	26	11	0	2	47	75	6.03	3.33	3.08	9	4	0	0	15.6	SSE	--	---	--	5	4	19	7.3	--
Laredo	500	1002.7	1018.0	72	50	61.3	-.6	90	27	31	11+	1	2	48	66	.73	-.12	.35	5	1	.0	0	10.9	SSE	*27	NNE	19	7	6	15	6.4	--
Lubbock	3243	903.5	1017.7	56	24	40.0	-3.1	75	27	6	20	0	22	19	48	T	-.53	T	0	0	T	T	16.5	WSW	*46	WSW	26	14	7	7	3.9	--
Midland	2854	916.7	1017.3	61	33	46.8	-2.2	77	28	15	11	0	16	23	45	.14	.57	.14	1	1	T	0	10.0	S	*29	S	3+	14	4	10	4.6	--
Port Arthur	16	1019.3	1020.9	65	47	55.6	- 4	78	28	26	11	0	2	48	79	4.78	.59	2.77	9	5	.0	0	15.1	N	41	SE	19	5	7	16	6.9	51
San Angelo	1903	950.2	1018.7	62	38	50.0	-1.7	84	28	20	11+	0	6	33	58	.82	-.17	.62	2	2	T	T	12.0	SW	*40	S	3+	11	6	11	5.1	--
San Antonio	792	993.9	1019.4	67	46	56.4	1.3	83	27	22	12	0	3	43	65	2.33	.75	1.56	7	3	T	0	9 9	NNE	35	N	10	5	5	18	7.1	52
Victoria	110	1014.9	1019.6	67	49	58.2	-.7	79	26	29	11+	0	2	49	73	2.81	.84	1.86	8	3	.0	0	11.7	---	%45	N	10	5	7	16	7.0	--
Waco	500	1001.0	1020 1	61	41	51.2	-.5	75	28	21	11	0	7	41	70	3.59	.96	1.75	8	2	T	T	14.9	S	-	--	--	8	3	17	6.3	--
Wichita Falls	1027	983.1	1019 6	60	33	46.2	4	82	28	16	11	0	15	31	60	1 08	-.41	.85	4	3	T	T	10.6	SE	*29	NNW	10	10	10	8	4.9	--
UTAH																																
Milford	5028	845 2	1024.3	32	6	18 9	-12.0	44	17	-19	11	0	28	--	--	.86	15	.30	10	0	15.9	15	----	---	--	---	--	13	4	11	4.9	--
Salt Lake City	4220	869.3	1023.0	34	14	24.0	-9.4	45	27	0	20	0	27	16	71	1.31	.08	54	12	0	16.5	8	9 6	S	30	SE	27	10	6	12	6.4	55
VERMONT																																
Burlington	331	1007 5	1023.0	29	12	20.2	2.1	45	11+	-23	3	0	25	13	75	2.79	1.26	1 10	15	0	21.0	9	11.1	S	34	S	6	5	6	17	7.1	53
VIRGINIA																																
Lynchburg	947	988.7	------	50	28	39.3	.1	68	27	7	12	0	20	--	--	4.36	1.88	1.66	12	0	.4	T	8.5	---	30	SW	16+	7	10	11	6.3	60
Norfolk	26	1023.5	1024.8	51	31	41.2	-.8	75	28	17	13+	0	18	32	72	2.71	-.35	.93	9	0	T	T	11.5	N	45	S	6	7	9	12	5.9	68
Richmond	162	1018.0	1024.5	53	27	40.1	.4	70	22	11	13+	0	19	29	69	3.18	.42	.92	10	0	1.4	1	9.2	S	31	NW	11	11	5	12	5.7	59
Roanoke	1174	980.1	1024.0	50	28	39.0	-.2	67	27	6	12	0	21	27	66	3.87	1.31	1.53	12	1	2.1	1	7.6	SE	--	---	--	9	5	14	6.0	--
WASHINGTON																																
Olympia	190	1014.2	1021.9	46	30	37.9	-2.1	53	13+	19	19	0	20	31	77	5.23	-.93	1.80	15	0	4.0	1	7.4	SSW	*32	S	28	2	6	20	8.1	--
Seattle CO	14	------	------	46	37	41.3	-2.2	52	11+	28	18	0	6	--	--	2.62	-1.12	1.34	13	0	.5	T	10.9	---	61	SW	28	1	5	22	8.6	43
Seattle	14	1020.7	1021.8	--	--	- --	---	--	--	--	--	--	--	33	76	----	----	----	--	--	----	--	8.3	SSE	--	---	--	--	--	--	---	--
Seattle-Tacoma	379	1007.1	1021.7	44	32	38.2	-2.7	51	13	21	18	0	15	33	83	4.30	.35	2.58	14	1	3.2	1	12.1	SW	--	---	--	1	3	24	8.8	--
Spokane	2357	949.9	1021.0	35	21	27.9	-1.8	46	14	10	26+	0	27	20	73	1.32	-.14	.36	9	0	16.0	7	8.1	SW	43	SW	7	3	7	18	7.9	43
Stampede Pass CO	3958	879.4	1021.7	28	20	23.9	-3.1	38	14	11	18	0	28	--	--	15.91	3.94	3.55	21	0	110.2	117	----	---	--	---	--	0	5	23	9.1	--
Tatoosh CO	101	1017.6	1021.1	45	37	41.1	2.1	49	22	28	27	0	2	34	78	5.37	-3.33	1.12	17	1	.9	T	15.7	E	68	SW	28	4	4	20	7.7	43
Walla Walla CO	949	985.1	1022.0	45	31	37.9	-.4	59	7	20	27	0	16	--	--	.43	-1.10	.17	8	0	2.2	2	6.2	---	30	W	28	3	5	20	7.6	30
Yakima	1061	981.7	1021.9	46	24	34.6	.4	59	7	13	28	0	27	23	65	.25	-.56	.14	4	0	1.8	1	5.9	W	--	---	--	2	8	18	7.7	--
WEST VIRGINIA																																
Charleston	950	986.2	1022.9	49	27	37.7	-.5	74	20	1	12	0	21	27	70	5.64	2.14	1.48	14	2	5.3	4	8.7	S	*30	SW	12	4	5	19	7.6	--
Elkins	1970	-----	---- -	45	22	33.5	1.0	68	20	-5	4	0	22	24	--	4.23	1.18	1.49	18	1	6.2	4	7.2	SSE	*29	WSW	1	5	5	18	7.5	--
Huntington	565	------	----	49	28	38.6	-.4	75	20	2	13	0	17	--	--	5.56	2.60	1.44	12	0	5 8	6	----	---	--	---	--	--	--	--	---	--
Parkersburg	615	----	------	46	27	36.0	.5	70	20	1	12	0	19	--	--	5.22	2.57	1.09	14	2	5.2	4	6.0	---	21	S	10+	6	3	19	7.3	32
WISCONSIN																																
Green Bay	689	998.0	1022.1	27	7	17.1	-.2	40	20	-11	13	0	28	12	75	1.37	.01	.56	8	0	9.2	5	11.3	NE	45	SW	20	10	3	15	6.2	47
La Crosse	652	995.9	1020.4	28	9	18.2	-1.1	46	20	-12	11	0	28	10	71	.57	-.54	.21	10	0	3.3	3	9.7	NNW	*35	SSW	20	8	9	11	6.0	--
Madison	857	984.4	1021.8	30	11	20.7	-1.2	44	19+	-10	11	0	27	15	76	1.67	.54	.62	11	0	7.5	4	10.1	NNE	43	W	20	8	6	14	6.5	48
Milwaukee	675	995.9	1022.1	32	18	24.7	.5	44	20	-8	11	0	27	18	75	1.32	05	.57	11	0	6.8	3	12.9	SW	37	SW	21	6	4	18	7.4	44
WYOMING																																
Casper	5322	834.1	1017.9	30	11	20.3	-5.6	46	15	-10	24	0	28	11	64	1.01	.29	.32	13	0	21.5	6	18.6	SSW	--	---	--	2	10	16	7.6	--
Cheyenne	6131	807.0	1017.7	35	12	23.2	-4.5	54	17	-7	4	0	27	9	58	.58	-.07	.22	7	0	6.0	4	16.7	WNW	65	NW	19	6	9	13	6.4	56
Lander	5563	832.7	1020.1	30	7	18.8	-4.1	46	8+	-10	24	0	28	8	66	2.18	1.57	.88	10	0	43.8	19	6.7	---	49	SW	26	3	12	13	7.1	52
Sheridan	3942	883.5	1020.7	32	8	19.9	-3.3	52	8	-15	24	0	28	--	--	2.68	2.07	1.10	15	0	35.0	12	10.0	WNW	47	W	28	4	8	16	7.4	53
PACIFIC AREA																																
Canton Island	9	1008.5	1009 0	86	78	81.9	-1.1	88	2	75	13+	0	0	72	75	.08	-.46	.04	4	0	.0	0	----	---	--	---	--	20	7	1	3.4	--
Hilo	31	1013.9	1015.4	75	62	68.8	-1.9	81	25	58	17+	0	0	63	85	20.52	11.04	3.40	24	0	.0	0	8.1	SW	*27	NNE	13	1	8	19	8.0	32
Honolulu	7	1015.2	1015.9	76	65	70.5	-1.9	80	4+	61	16+	0	0	62	76	13.68	11.16	6.88	19	3	.0	0	11.0	NE	39	SE	23	4	12	12	6.7	51
Koror CO	94	1004.1	1007.8	86	75	80.4	0	89	9	71	22	0	0	75	83	15.14	7.13	4.58	21	3	.0	0	----	---	--	---	--	0	12	16	8.2	--
Lihue	115	1010.8	1016.0	77	64	70.4	.3	81	5	61	6+	0	0	62	75	5.52	1.08	2.06	19	3	.0	0	14.0	NE	33	S	22+	3	13	12	6.8	39
Ponape CO	112	1003.4	1008.8	87	76	81 1	-.8	89	3+	72	18+	0	0	74	78	7.40	-.47	2.02	22	0	.0	0	----	---	--	---	—	0	8	20	8.1	--
Truk (Moen Island)	8	1008.1	1008.6	85	78	81.5	.5	86	9+	74	12+	0	0	75	80	4.75	-2.35	1.42	17	0	.0	0	----	---	--	---	--	0	3	25	9.3	--
Wake Island	11	1013.9	1014 4	82	74	77.5	.2	84	18	70	19+	0	0	68	74	2.13	.62	1.49	9	0	.0	0	15.4	ENE	--	---	--	16	10	2	3.5	--
Yap CO	53	1006.4	1008.5	86	76	80.7	.0	89	28	72	24	0	0	74	81	4.86	-.07	2.17	20	0	.0	0	----	---	--	---	--	0	8	20	8.5	--
WEST INDIES																																
San Juan, P R CO	47	------	------	80	71	75.3	4	86	18	68	9	0	0	--	--	2.38	-.29	.80	13	0	.0	0	----	---	--	---	--	--	--	--	---	--
San Juan, P R.	9	1014.5	1016.6	81	70	75.2	.5	84	20+	67	10+	0	0	65	73	1.64	-1.59	.52	13	0	.0	0	12.9	ENE	26	NE	6+	7	11	10	5.6	74

Data from airport unless otherwise specified. Co indicates data from city office.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.
+ And also on a later date or dates.
% Peak gust.
a Maximum hourly average.

HEATING DEGREE DAYS

(Base 65°F.)

Table 3

FEBRUARY 1955

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	461	2348	2244
Mobile	258	1458	1343
Montgomery	375	1974	1769
ARIZONA			
Flagstaff	1183	5191	5212
Phoenix (CO)	360	1204	1255
Phoenix	390	1279	1428
Prescott	825	3294	3358
Tucson	445	1473	1453
Winslow	890	3617	3610
Yuma	282	958	849
ARKANSAS			
Ft. Smith	624	2495	2619
Little Rock	570	2399	2441
Texarkana	493	2057	1954
CALIFORNIA			
Bakersfield	412	1962	1730
Bishop	757	3557	3179
Blue Canyon	839	3796	3708
Burbank	296	1197	1284
Eureka CO	567	3141	3050
Fresno	495	2315	2040
Los Angeles (CO)	223	892	1023
Los Angeles	268	1081	1380
Mt. Shasta (CO)	833	4333	4111
Oakland	461	2250	2190
Red Bluff	485	2284	1982
Sacramento (CO)	453	2236	1997
Sacramento	481	2369	2142
Sandberg (CO)	720	3028	2862
San Diego	260	902	1060
San Francisco (CO)	350	2210	2045
San Francisco	450	2474	2288
San Jose	416	1905	1690
Santa Maria	449	2093	1936
COLORADO			
Alamosa	1325	6043	6288
Colorado Springs	1074	4391	4443
Denver	1054	4237	4413
Grand Junction	1213	4691	4488
Pueblo	1038	4007	4248
CONNECTICUT			
Bridgeport	922	3887	4177
Hartford	961	4341	4508
New Haven	938	4075	4281
DELAWARE			
Wilmington	857	3723	3700
DIST. OF COLUMBIA			
Washington (CO)	747	3290	3258
Washington	756	3327	3304
FLORIDA			
Apalachicola (CO)	223	1173	1090
Daytona Beach	149	902	720
Fort Myers	71	418	345
Jacksonville (CO)	196	1096	945
Jacksonville	198	1204	1051
Key West (CO)	20	77	70
Miami (CO)	39	199	158
Int. Airport, Hialeah	33	190	166
Miami Beach	21	114	114
Orlando	110	701	558
Pensacola (CO)	236	1294	1187
Tallahassee	232	1449	1278
Tampa	108	660	572
West Palm Beach	39	257	215
GEORGIA			
Athens	492	2441	2253
Atlanta	480	2391	2269
Augusta	412	2207	1768
Columbus	385	2094	1951
Macon	353	1914	1712
Rome	546	2791	2516
Savannah	324	1795	1429
IDAHO			
Boise	1052	4657	4377
Lewiston	870	4183	4122
Pocatello	1225	5609	5082
ILLINOIS			
Cairo (CO)	681	2966	3004
Chicago (CO)	980	4115	
Chicago	1007	4291	4648
Chicago University	996	4274	
Moline	1107	4721	4805
Peoria	1030	4393	4591
Springfield	933	4069	4317
INDIANA			
Evansville	770	3485	3424
Ft. Wayne	997	4425	4618
Indianapolis	911	4132	4201
South Bend	1063	4624	4775
IOWA			
Burlington	1060	4506	4601
Des Moines	1195	4747	4894
Dubuque	1230	5273	5402
Sioux City	1336	4972	5326
KANSAS			
Concordia (CO)	1105	3925	4091
Dodge City	976	3615	3867
Goodland	1065	4465	4650
Topeka (CO)	1011	3699	3830
Topeka	1024	3791	4037
Wichita	911	3388	3564
KENTUCKY			
Lexington	795	3651	3746
Louisville	760	3440	3444
Pikeville (CO)	672	3171	
LOUISIANA			
Baton Rouge	276	1372	1332
Lake Charles	272	1197	1293
New Orleans (CO)	191	983	993
Int.Airport,Moisant	206	1141	1096
Shreveport	428	1759	1784
MAINE			
Caribou	1393	6754	7209
Greenville (CO)	1324	6367	
Portland	1065	5110	5438
MARYLAND			
Baltimore (CO)	763	3242	3193
Baltimore	849	3703	3613
Frederick	912	3936	3707
MASSACHUSETTS			
Blue Hill Obs.	1015	4599	
Boston	917	3963	4130
Nantucket	904	3830	4047
Pittsfield	1123	5383	5503
MICHIGAN			
Alpena (CO)	1216	5362	5583
Detroit	1018	4443	4608
Detroit (Willow Run)	1031	4519	4703
East Lansing (CO)	1071	4685	
Escanaba (CO)	1293	5600	6013
Grand Rapids (CO)	1048	4492	4683
Grand Rapids	1107	4809	5081
Marquette (CO)	1248	5659	5893
Muskegon	1105	4749	4970
S. Ste. Marie	1357	6229	6604
MINNESOTA			
Duluth CO	1491	6689	6834
Duluth	1533	6838	7112
International Falls	1693	7503	7763
Minneapolis	1411	5747	5867
Rochester	1391	5854	6032
St. Cloud	1551	6447	6612
MISSISSIPPI			
Jackson	425	1944	1822
Meridian	417	3082	1930
Vicksburg (CO)	404	1720	1656
MISSOURI			
Columbia	890	3683	3940
Kansas City	931	3629	3811
St. Joseph	1101	4095	4153
St. Louis (CO)	794	3390	3478
St. Louis	808	3525	3642
Springfield	829	3466	3632
MONTANA			
Billings	1243	4679	5161
Glasgow (CO)	1494	5817	6549
Great Falls	1211	4901	5401
Havre CO	1318	5331	6102
Helena	1234	5747	5983
Kalispell	1228	5756	5840
Miles City	1332	5194	5841
Missoula	1186	5648	5784
NEBRASKA			
Grand Island	1253	4653	4805
Lincoln (CO)	1182	4357	4490
Norfolk	1314	4890	5320
North Platte	1254	5011	4868
Omaha	1230	4467	4733
Scottsbluff	1153	4859	4955
Valentine (CO)	1324	4993	5191
NEVADA			
Elko	1276	5884	5266
Ely	1313	5782	5265
Las Vegas	591	2265	2045
Reno	916	4640	4278
Tonopah	1068	4673	4183
Winnemucca	1056	5337	4619
NEW HAMPSHIRE			
Concord	1091	5173	5525
Mt. Washington	1524	9456	
NEW JERSEY			
Atlantic City CO	849	3414	3331
Newark	857	3716	3883
Trenton (CO)	843	3715	3760
NEW MEXICO			
Albuquerque	840	3327	3441
Clayton	935	3632	3781
Roswell	663	2814	2768
NEW YORK			
Albany	1128	4925	5080
Binghamton	1145	5287	5408
Buffalo	1052	4608	4823
New York (CO)	841	3629	3670
La Guardia Field	831	3497	3631
Rochester	1092	4789	4913
Schenectady	1073	4721	
Syracuse	1099	4829	4711
NORTH CAROLINA			
Asheville (CO)	668	3353	3105
Asheville	713	3592	
Charlotte	532	2641	2555
Greensboro	655	3177	2991
Hatteras (CO)	549	2091	1802
Raleigh	590	2991	2649
Wilmington	473	2212	1865
Winston-Salem	647	3077	2921
NORTH DAKOTA			
Bismarck	1586	6136	6718
Devils Lake (CO)	1671	6816	7345
Fargo	1655	6575	6917
Grand Forks	1715	6996	
Pembina	1599	6680	
Williston (CO)	1551	6034	6713
OHIO			
Akron	1006	4576	4497
Cincinnati (CO)	748	3370	3465
Cincinnati	835	3850	3899
Cleveland (CO)	940	3977	4089
Cleveland	950	4178	4332
Columbus	914	4100	4179
Dayton	929	4148	4163
Sandusky (CO)	952	4114	4235
Toledo	1004	4451	4629
Youngstown	1011	4611	4467
OKLAHOMA			
Oklahoma City	698	2774	2932
Tulsa	665	2637	2882
OREGON			
Astoria	658	3415	3346
Burns (CO)	1105	5309	5049
Eugene	693	3468	3394
Meacham	1085	5487	5356
Medford	742	3523	3338
Pendleton	802	3841	3956
Portland (CO)	641	2927	3012
Portland	681	3278	3331
Roseburg	692	3377	
Salem	692	3452	3262
Sexton Summit (CO)	894	4478	4079
PENNSYLVANIA			
Allentown	957	4281	4356
Harrisburg	914	3943	3943
Philadelphia (CO)	788	3387	3394
Philadelphia	803	3514	3656
Pittsburgh (CO)	829	3771	3761
Pittsburgh	933	4296	4370
Reading (CO)	857	3746	3790
Scranton (CO)	987	4421	4441
Williamsport	987	4351	4387
RHODE ISLAND			
Block Island	904	3763	3944
Providence	931	4125	4365
SOUTH CAROLINA			
Charleston (CO)	360	1622	1466
Charleston	359	1837	1629
Columbia	444	2296	2012
Florence	438	2176	2090
Greenville	545	2638	2425
Spartanburg	545	2629	2430
SOUTH DAKOTA			
Huron	1489	5691	5923
Pierre	1423	5277	
Rapid City	1274	4883	5370
Sioux Falls	1452	5582	5911
TENNESSEE			
Bristol	692	3438	3203
Chattanooga	550	3013	2693
Knoxville	600	3000	2844
Memphis	581	2566	2547
Nashville	658	2980	2786
TEXAS			
Abilene	471	1918	2200
Amarillo	761	2930	3362
Austin	324	1607	1452
Brownsville	110	326	543
Corpus Christi	176	607	887
Dallas	451	1818	1909
Del Rio	264	1198	1239
El Paso	543	2173	2201
Ft. Worth	455	1852	1958
Galveston (CO)	247	839	1005
Galveston	253	884	1029
Houston (CO)	258	959	1083
Houston	259	1053	1168
Laredo	181	645	710
Lubbock	696	2770	2869
TEXAS (Cont'd.)			
Midland	504	2123	
Port Arthur	271	1148	1267
San Angelo	417	1768	1788
San Antonio	263	1045	1335
Victoria	220	828	969
Waco	387	1573	1696
Wichita Falls	526	2143	2475
UTAH			
Milford	1285	5110	4783
Salt Lake City	1142	4686	4358
VERMONT			
Burlington	1252	5585	5698
VIRGINIA			
Lynchburg	711	4376	3193
Norfolk	662	2800	2630
Richmond	690	3200	3068
Roanoke	725	3438	3194
WASHINGTON			
Olympia	752	3899	3822
Seattle (CO)	657	3056	3131
Seattle	745	3655	3700
Spokane	1033	4892	4981
Stampede Pass (CO)	1144	6470	6175
Tatoosh Island (CO)	661	3636	3803
Walla Walla (CO)	752	3533	3737
Yakima	843	4402	4519
WEST VIRGINIA			
Charleston	761	3623	3357
Elkins	878	4470	4222
Huntington (CO)	734	3416	3162
WISCONSIN			
Green Bay	1335	5812	5977
La Crosse	1305	5466	5739
Madison (CO)	1220	5184	5371
Madison	1235	5318	5476
Milwaukee	1122	4838	5141
WYOMING			
Casper	1247	5084	5440
Cheyenne	1165	4830	5181
Lander	1290	5345	6012
Sheridan	1260	5089	5675
ALASKA			
Anchorage	1383	7513	7718
Annette	840	4515	4773
Barrow	2563	13045	13196
Bethel	1816	9055	8928
Cordova	1036	6269	6519
Fairbanks	2166	10709	10600
Juneau	994	5694	6225
Kotzebue	2379	11285	10802
McGrath	2074	10592	10472
Nome	1980	9810	9468
Northway	2139	11550	11591
St. Paul	1098	7118	6907
Yakutat	1022	6065	6301

Data from airport unless otherwise specified.
CO indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Pennsylvania, southeastern portion	1	Daytime			3	12			Snow	2 to 5 inches of snow packed on highways, causing hazardous driving conditions and numerous traffic accidents. 1 person killed on Turnpike near Carlisle when car skidded out of control. 2 persons killed north of Reading in skidding accident. 5 persons injured in automobile-bus collision near Dillsburg. At least 7 other persons injured in skidding mishaps.
Felton, Lee County and Bruins Landing, Crittendon County, Ark.	1	1:45 p.m.	15	*1			$10,000		Wind and hail	Loss at Felton estimated at $8,000, where large barn and several tenant houses damaged; accompanied by hail, but no hail damage. Damage to 2 plantations along Mississippi River at Bruins Landing, estimated at $2,000. Storm continued into Mississippi where loss of life and extensive damage occurred. (See report below).
Tunica, DeSoto, Tate, Marshall, Benton, Tippah, and Alcorn Counties, Miss.	1	2:30-4 p.m.		*75	23	169	300,000		Winds and hail	Linesquall began in Arkansas near town of Felton, extending about 75 miles north-south line and moved east-northeastward across northwestern corner of Mississippi and southwestern corner of Tennessee. Hail occurred at scattered places with high winds in counties named, but damage mostly minor, except at Commerce Landing in Tunica County and Lewisburg in DeSoto County. At Commerce Landing path of destruction was 1/2 to 3/4 mile wide and 2 to 3 miles long; in Lewisburg path 100 to 700 feet wide and 3½ miles long. All debris carried eastward and investigation by meteorologists resulted in opinion storm was not a tornado. Deaths were 20 with 141 injured, mostly school children, at Commerce Landing, and 3 deaths with 25 injured at Lewisburg. Near Holly Springs 3 persons injured by high winds. Altogether 99 homes destroyed and 120 badly damaged (most of these were substandard tenant houses); 140 other buildings destroyed, and 177 damaged. Moved eastward.
Phillips and Lee Counties, Ark.	1	2:30 p.m.				2			Wind and hail	Wind loss of $800 and injuries occurred 6½ miles west of Helena. Hail damage extensive in LaGrange area, Lee County, -- amount not determined.
Madison County, Ala.	1	6-7 p.m.				9	450,000		Wind	Heavy damage due to vulnerability of large roof areas at Alabama A&M College, north of Huntsville, and to other school buildings. 2 homes and 30 other buildings destroyed, and 28 homes and 60 other buildings damaged. Livestock loss $1,000.
Limestone County, Ala.	1	Late p.m.				3	15,000		do	1 house and 4 other buildings destroyed; 2 houses and 4 other buildings damaged.
Colbert County, Ala.	1	Late p.m.				4	30,000		do	Heaviest damage at Maud and Mynott. 4 houses and 11 other buildings destroyed, and 8 houses and 6 other buildings damaged.
Marshall County, Ala.	1	Late p.m.				2	25,000		do	1 home and 6 other buildings destroyed; 12 homes and 10 other buildings damaged.
Lebanon and eastern Cumberland Counties, Pa.	2	Daytime			2	2			Snow	Light snowfall on 1st and 2d created icy road conditions. 1 member of cinder crew injured by fall from truck near Cornwall was killed in skidding accident along with companion on way to hospital near Lebanon. 2 power and light company workmen injured in 3-vehicle collision just west of Harrisburg.
Wyoming, western portion	3								Snow and blowing snow	Roads blocked by blowing snow between Rawlins and Rock Springs. 20 inches of snow fell at Lander and 14 inches at Thermopolis.
Kansas	3-4								Snow, sleet, and glaze (ice)	Heavy snow began in north-central during forenoon of 3d and spread slowly eastward and southward. By noon of 4th snow depths of 5 to 10 inches general over most of central and northeast, and some northeastern areas had up to 17 inches with considerable drifting. Severe sleet and glaze storm in most of southern half of State evening of 3d accompanied by strong winds, caused extensive damage to trees and overhead wires. Highway traffic generally paralyzed for 24 hours or more.
	3									Minor storm also reported at Dacoma, Okla.
Iowa, southern and western portions	4	All day	200	*100					Snow, wind, and ice	New snow up to 13 inches drifted by strong winds blocked highways. Many schools closed. Icing closed airports.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Arkansas, northern and western portions	4-5	Night					Considerable		Glaze	Considerable damage to timber in mountainous areas, especially on higher elevations.
Orleans-Jefferson-St. Bernard Parishes, La.	5	7-9:40 a.m.					$50,000		Rain, wind, and hail	Rain which fell at rate of 1.00 inch in 5 minutes (heaviest of record) and amounted to 3.71 inches in 3 hours inundated many sections of the 3 parish area, flooding stores and homes and stalling traffic. Windstorm moved eastward through Gentilly-Lakeshore section of New Orleans during storm, unroofing garages, damaging homes, and breaking windows. All debris carried eastward and there was no evidence of tornado. Hail caused only minor damage.
Cunningham Creek, Fluvanna County, Va.	6				1				Rain	Motorist drowned fording Cunningham Creek, 4 miles west of Palmyra. Both he and his vehicle washed downstream.
Western Slope Cascades in Pierce, King, Skagit and Snohomish Counties, Wash.	7	Throughout day and night							do	3 to 5 inches of rain in 24 hours on western slope of Cascades caused rapid melting of snow on higher elevations, resulting in rapid rise of all rivers in area. Flooding occurred in lower Skagit, Stillaquamish, Snoqualmie and Green Rivers. Flood damage rather small, due to overflow anticipated each season.
	7									Minor storm also reported in Kapaau and vicinity, Island of Hawaii.
Cheyenne to Laramie, Wyo.	8	All day							Wind	13 cars of Union Pacific train blown off tracks. Several house trailers tipped over on highway
Boykins and Branchville areas, Va.	11	3-3:02 p.m.	3	1-5		1	5,000		do	Line squall. TV aerials blown down; roofs and chimneys damaged; several trees blown down. Electrical service out 2 hours.
New England, central portion	11-12	P.m. of 11th to p.m. of 12th			4	15			Rain and wind	Wind-whipped rainstorm flooded parts of central New England and was indirect cause of 4 traffic deaths. Also, caused rail washout, resulting in train wreck near Augusta, Maine. Gusts over 55 m.p.h. brought down tree limbs and with rain caused temporary blackouts in Barnstable and Dennis, Mass. Moved northwestward.
Pennsylvania, central portion	14	Daytime			1	15			Snow	Light snowfall created icy highways. 1 person killed near Trout Run when his car skidded into path of truck. 2 persons injured when car skidded and overturned in Lebanon County. 2 car collision resulted in injuries to 3 persons in Mifflin County. In Harrisburg, 1 person injured when car skidded into fire truck. In Mifflinburg, 1 adult and 1 child injured when car skidded into train. Near York 1 adult and 1 child injured when car skidded into tree. At least 5 other persons injured in traffic accidents due to skidding. Icy roads and severe cold hampered fire fighting personnel and equipment attempting to control many fires throughout the area.
Gillette, Wyo.	16				1				Freeze	Rancher found frozen to death.
Maine, central and eastern portions	17-18	A.m. of 17th to midday of 18th			2				Snow	More than 25 inches of snow. Trapper lost in woods and 1 person killed in traffic accident attributed to storm which one of heaviest in recent years. More than 3,000 telephones out of order. Roofs of several buildings buckled under wieght of snow.
ansas, western third	17-18-19								Dust and blizzard	General dust on 17th from southerly gales with serious soil erosion in southwest. At Garden City peak gusts recurrently reached 50 m.p.h. or higher between noon and 6 p.m. More limited soil erosion in southwest on 18th from equally strong northerly winds, and blizzard conditions developed in northwest corner of State. Light snow continued to drift badly over large northwestern area on 19th.
klahoma, western two-thirds	18	Throughout day					Considerable	Minor	Ice, snow, and wind	Numerous automobile accidents on highways and city streets. Moved eastward.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Colorado, eastern portion	18-19				5	25	$100,000	$50,000	Wind and snow	Blizzard conditions prevailed, drifting snow, reducing visibility, disrupting traffic, and resulting indirectly in deaths and injuries.
Wyoming, entire State	18-19				4				Blizzard	Worst blizzard since January 1949. 2 persons killed in auto accident as direct result of storm. Another man froze to death when his car became stalled and he attempted to walk to shelter. Sheep herder also found frozen to death when he became lost in storm. Several other persons stranded by storm, but later rescued. Roads blocked in all sections.
Nebraska, southeastern portion	18-19	All night							Ice (glaze)	Storm widespread. Minor damage to wires. Several automobile wrecks caused by icy pavement.
Nebraska, western and north-central portions	18-20								Blizzard	Storm widespread. Most roads blocked for several days. Many motorists stranded in cars for several hours. Livestock losses light.
South Dakota, entire State	18-20				2				do	3-day storm with 7- to 14-inch snowfall in central and east, less than 4 inches in northwestern quarter, and 4 to 8 inches in extreme southeast. Record or near-record snowfall for storm period for some central points. 40 to 70 m.p.h. winds caused blizzard conditions from 18th to 20th in west and on 19th and 20th in east. Temperatures between 5° and 10°. Roads blocked, schools closed, and other activities cancelled. Property damage was minor, however, and traffic resumed by 22d. Only minor livestock and wildlife losses.
Twin Cities area, Minn.	18-20								Glaze, sleet, snow, and wind	Freezing precipitation resulted in extremely icy streets, walks, highways, and roads. Heavy, moist snows that accompanied storm clung to trees, shrubbery, and overhead wires. Damage to overhead wire-systems slight, because of favorable temperature conditions and high winds that preceded freeze. Considerable minor damage to buildings from wind and from unusual weight of heavy moist snows occurred in extreme south. Storm assumed blizzard proportions in northwest where snowfall unusually heavy and some highways and roads blocked.
	18									Minor storm also reported at Dacoma, Okla.
East suburbs of Prescott, Nevada County, Ark.	19	7:10-7:15 p.m.	1	200	0	0	2,800	0	Tornado and hail	Path to northeast, accompanied by light hail. No damage by hail.
Nueces County, Tex.	21				0	0	0	0	Waterspout	Observed over Corpus Christi Bay.
Kuliouou, Oahu Island, Hawaii	23								Wind	Unusual strong wind reported in local area; trees blown down and fences damaged.
Honolulu and vicinity, Hawaii	23-24								Rain	Streets and basements in low areas flooded. Landslides on Pali road blocked traffic.
Logan, Mingo, Wyoming, McDowell, and Mercer Counties, W. Va.	26-28								do	Numerous slides on highways (in addition to flood damages.)
	26									Minor storm reported in southeastern Randolph County, Ill.
Mile 111 on Seward Highway, Alaska	27					1			Wind	Car blown off highway, 17 miles south of Anchorage, and down a 40 foot embankment. Passenger suffered 2 broken ribs and minor bruises when she was thrown 20 feet onto pile of rock and snow. Estimate of damage to car not available.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Ski Bowl (6 miles from Sitka), Alaska	27				2				Snow slide	2 boys died when 500 foot wall of snow crashed down on them from mountaintop at Harbor Mountain Ski Bowl. They were rescued 30 minutes after slide covered them, but were dead of suffocation. Park Service ranger swept 200 feet by slide and buried to a depth of 6 feet. He was unconscious when rescued, but uninjured. Rescue party of 150 volunteers formed as soon as word of slide received. Ski Bowl where slide occurred is 6 miles from Sitka. The three sides of the bowl apparently all slid at once.
Washington, entire State	27-28	Before midnight of 27th through 28th					$200,000		Wind and snow	Southeast to southwest winds ranging from 60 to 75 m.p.h., and accompanied by snow occurred in most areas. Several fishing and pleasure boats damaged along coast and in Puget Sound; 1 house boat sank in Lake Union and several damaged. Windows broken, and falling trees damaged buildings throughout State. Power and communication failures in all localities. Wet, heavy snow in west caused considerable damage to timber. Drifting snow blocked several highways in east.
Oregon, all areas	28	All day					250,000	Minor	Wind	High winds which reached hurricane force in occasional gusts moved over State, destroying considerable property, blowing down a great number of trees, interrupting power and telephone service, and causing general havoc in many areas. In Portland large tent housing annual boat show collapsed, causing approximately $5,000 damage. Airplane hangar blown down, destroying or badly damaging 16 planes stored, with total losses near $40,000. A number of houses and other property badly damaged when trees blown down on them. Some less-well constructed buildings over State blown down, many windows broken, outdoor signs damaged, and large numbers of power lines broken or snarled, causing widespread power outages and even interfering with traffic in metropolitan areas. Lack of power caused closure of several schools for 1 to 2 days. Damage to power company installations alone estimated at between $100,000 and $150,000. Moved eastward.
Lake McAlester (near), Pittsburg County, Okla.	28	9:30 p.m.	2	Narrow	0	0	10,000	Minor	Tornado and rain	1 home unroofed. Garage, chicken house, boat, cabin, bath house, and auto trailer broken to pieces. Trees and a chimney blown down. Heavy rain damaged the unroofed house. Moved northeastward
	28									Minor storms also reported at Poteau, Okla., and near Nimrod, Ark.

* Miles instead of yards.
** Yards instead of miles.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

FEBRUARY 1955

During February, the most significant flooding occurred towards the end of the month in the Ohio Basin. Flooding elsewhere was mostly light or minor.

ST. LAWRENCE DRAINAGE

Mild temperatures and light rain on the 19th and 20th in the Lake Michigan drainage caused rapid snow melt. This caused the Grand and its tributaries in Michigan to start rising slowly. The ice jam at Portland, Mich., broke free in the evening of the 21st. Floating ice jammed against the North Park Bridge on the 27th and 28th, backing up water in the low sections of North Park and Comstock Park, flooding some basements and low streets before the ice jam gave way and released the pent-up waters which receded quite rapidly. There were minor crests at Ionia and Lowell, Mich., on the 23d, and the crest passed Grand Rapids about midnight of the 28th with a gage reading near 7.5 feet (flood stage, 15 feet).

ATLANTIC SLOPE DRAINAGE

Local flooding occurred on the Battenkill and Hoosic Rivers in New York on the 7th and 23d due to moderate rainfall, rapid snow melt, and ice jams. Damages were minor and occurred chiefly in the Eagle Bridge area.

During the first 5 days of the month, the Schuylkill River at Fairmount Dam, Philadelphia, Pa., and the Delaware River at Trenton, N. J., were frozen over for the first time in several years. No trouble was experienced with ice jams when the ice went out.

The Lehigh River was frozen over at Lehighton, Pa., from the 1st to the 18th, and the Lackawaxen River at Hawley, Pa., from the 1st to the 23d. There was some snow in the woods on the watersheds of both rivers at the end of the month.

Solid ice was reported on streams in the Susquehanna River Basin up to the 22d and 23d of the month. Maximum temperatures in the 50's caused moderate melting of the snow mantle in the upper Susquehanna Basin on the 22d and 23d. Rains over the same area on the 23d augmented the runoff and caused moderate main-stem rises from the 22d to the 25th. Only slight rises occurred on the West Branch and Juniata Rivers in Pennsylvania during the month.

Minor flooding occurred in the lower reaches of the James River on the 8th and 9th from the heavy rainfall (1 to 2 inches) on the 6th and 7th. A motorist, attempting to ford Cunningham Creek during the rapid rise, was carried downstream and drowned.

The minor flooding on the Neuse and Cape Fear Rivers between the 7th and 16th was due to moderate to heavy rain (2 inches) on the 6th and 7th. No damage was reported, but it is believed an economic loss was sustained by shipping interests along the lower Cape Fear River due to interruption of river traffic.

This same storm caused light flooding in the Pee Dee and Santee River Basins in South Carolina between the 7th and 16th. It was the first overflow on the Pee Dee River since April 1954 at Peedee, and since January 1954 at Cheraw. These were only minor floods, but because of the prolonged period of drought and low previous stages, they were important to operations along these streams. The rains causing the floods ranged from 1-1/4 inches to 3 inches in the Pee Dee, and from 3 to 4 inches over the Santee, with the highest amounts in the mountains.

EAST GULF OF MEXICO DRAINAGE

Heavy to excessive rains (3 to 6 inches) in the Apalachicola River Basin on the 6th and 7th resulted in minor flooding at Blountstown, Fla., on the 14th. These rains, although not producing a serious or critical rise in the Apalachicola River system, created the highest river stages since December 1953.

This same storm produced light to moderate flooding in tributaries of the Alabama and Tombigbee Rivers in Alabama between the 7th and 17th. The rainfall during the 2-day period averaged between 3 and 4 inches. On the 6th, one drowning was reported on Boxer Creek about 2 miles east of Fayette, Ala. Numerous lowland homes were flooded in the Montgomery area on the 6th. All State and U. S. highways in the Atmore area were inundated on the 6th. Water up to 2 feet deep was reported on other main highways.

There were two separate periods of flooding on the Pearl River in Louisiana and Mississippi during the month. The first resulted from heavy rainfall (3 to 5 inches) during the night of the 4th, and the second from heavy rainfall (2 to 4 inches) during the night of the 20th and the morning of the 21st. The first period of heavy rainfall also caused the Bogue Chitto to overflow at Franklinton, La.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The Mississippi River above Dam 10 was frozen over during February and the only open places remained below the tailwater of the various dams to a distance of 1 to 1½ miles. Pool stages were maintained near normal elevation throughout the month. There was little, if any, surface runoff this month, with no definite thawing periods. Snow cover in the southern end of the basin was gradually depleted the last week of the month and this moisture was absorbed by the ground. Ground water table is 3 to 4 inches higher than last season at this time.

An ice jam a few miles downstream from Eddyville, Iowa, on the Des Moines River caused a temporary rise to near or just slightly above flood stage on the 21st. No damage was reported from the high water.

The slight flooding on the Illinois River at Havana, Ill., and on the Meramec at Sullivan and Pacific, Mo., between the 21st and 22d was due to heavy rain (1 to 2.5 inches) during the 48-hour period ending on the 20th. No damage resulted from the slight overflows.

Missouri Basin.--No damage was reported from the minor flooding on the Grand, Lamine, and Chariton Rivers in Missouri between the 19th and 23d.

An ice gorge produced minor flooding on the Black Vermillion River at Frankfort, Kans., on the 19th. Damages from the brief overflow were negligible.

Ohio Basin.--The low-flow winter conditions that prevailed during most of January continued into February. Tributaries were mostly at seasonal low stages, with many streams frozen or running ice except in the southern area, and the Ohio River was in pool. Snow cover at the beginning of the month was very light over most of the basin, averaging 0 to 3 inches. Locally, however, 12 to 14 inches were reported at higher elevations in West Virginia. The snow cover had been mostly reduced to small amounts by the 4th, and snow cover thereafter was of minor importance in connection with streamflow during the month. Precipitation developed an above-normal pattern over most of the basin with measurable amounts reported on 19 days, mostly as rain, with one general snowstorm of 2-5 inches on the 11th.

The first pronounced increase in stream flow resulted from the general rainfall from the 5th to 7th, which averaged 1 to 1.75 inches above Evansville, Ind., and less than ½ inch below; and over the Wabash Basin and the headwaters of the northern tributaries. Minor flooding resulted on the Tygart and Little Kanawha Rivers in West Virginia, the Monongahela in Pennsylvania, the Scioto in Ohio, the Rough and Green in Kentucky, and the South Chickamauga Creek in Tennessee. Moderate to heavy rain on the 16th and 17th, 20th to 22d, and the 26th to 28th caused another rise during the last 10 days of the month, with flood stage reached at Dam 50 on the 26th. Flood conditions developed along the entire Ohio during March. Severe flooding occurred on the Guyandot, Sandy, upper Kentucky, and lower Green Rivers. Slight to moderate flooding occurred on the other tributaries.

Arkansas Basin.--The average monthly stage of the Arkansas River at Tulsa, Okla., was 2.7 feet, 1.9 feet below normal. This is the lowest mean monthly stage of record for February. The Cimarron River at Perkins, Okla., had a mean monthly stage of 3.1 feet, 1.6 feet below normal. This is the record low mean monthly stage for February, 3.7 feet having been observed in 1931.

Red Basin.--The slight flooding on the Sulphur River at Hagansport, Tex., on the 5th and at Naples, Tex., on the 11th, was due to moderate to heavy rains on the 4th and 5th. Little or no damage resulted from the flooding.

WEST GULF OF MEXICO DRAINAGE

The light to moderate flooding on the Sabine, Calcasieu, and Mermentau Rivers, and in Nezpique Bayou between the 6th and 16th, was due to heavy to excessive rains on the 5th and 6th. Oberlin, La., reported the greatest amount with 8.51 inches on the 5th, and 3.80 inches on the 6th. Damages were relatively light, and occurred mostly at Mermentau where about 35 houses and some construction machinery were damaged.

The minor flooding on the Trinity River at Liberty, Tex., between the 7th and 11th was due to excessive rains (3.87 inches) between the 3d and 7th. No damage was reported.

Heavy rains, ranging from 4 to 8 inches, fell over upper portions of the watersheds of the Lavaca and Navidad Rivers in Texas on the 4th and 5th, causing light flooding on both streams between the 6th and 8th. The damage was slight as only grazing lands were inundated.

PACIFIC SLOPE DRAINAGE

Minor damage occurred on the Giffen Huron Ranch on the 28th from overflow of a small dry wash, Pasajiro Creek in California, when over ½ inch of rain occurred in thundershowers of the coastal range. A 300-yard stretch of Highway 198 was covered by 2 to 3 inches of water and two families were forced to evacuate from their homes.

The flooding on the Green River on the 8th, and on the Snohomish and Snoqualmie Rivers on the 8th and 9th, was due to heavy rain on the 7th and 8th, plus snow melt. Damage was negligible.

FLOOD STAGE DATA

Table 5

(All dates in February unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
James: Columbia, Va.	18	8	9	18.2	8
State Farm, Va.	12	9	9	13.5	9
Neuse: Neuse, N. C.	14	8	9	**14.9	9
		12	14	**15.3	14
Smithfield, N. C.	13	7	11	**15.2	9
		13	16	**15.1	15
Cape Fear: Fayetteville, N. C.	35	7	9	**35.8	8
Lock No. 2, Elizabethtown, N.C.	20	7	14	27.9	10
Pee Dee: Cheraw, S. C	30	7	9	34.0	7-8
Peedee, S. C.	19	9	16	20.3	12
Saluda: Pelzer, S. C.	6	7	8	8.0	8
Broad; Blairs, S. C.	14	7	9	19.0	7
Santee: Rimini, S. C.	12	12	17	13.6	14
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	14	14	15.1	14
Oostanaula: Resaca, Ga.	22	7	9	23.4	9
Etowah; Canton, Ga.	17	7	8	20.1	7
Coosa: Gadsden, Ala.	20	8	10	21.3	8
Cahaba: Centreville, Ala.	23	7	8	25.5	7
Warrior: Tuscaloosa, Ala.	47	7	9	56.9	7
Tombigbee: Demopolis, Ala.	42	9	14	48.2	12
		26	28	43.8	27
Lock 3, Whitefield, Ala.	33	8	17	47.5	13
		24	†	43.3	28
Lock 2, Pennington, Ala.	46	11	15	48.9	13
Lock 1, Jackson, Ala.	31	12	17	33.1	15
Bogue Chitto: Franklinton, La.	11	8	9	13.0	9
Pearl: Goshen Springs, Miss.	18	26	27	18.3	27
Jackson, Miss.	18	2	17	20.7	14
		22	28	26.1	27
Monticello, Miss.	15	7	9	17.6	8
		22	27	18.5	24
Columbia, Miss.	17	9	9	17.0	9
		25	26	17.2	26
Bogalusa, Miss.	15	7	20	18.9	11
		23	28	18.9	27
Pearl River, La.	12	10	17	15.1	12
		27	†		
MISSISSIPPI SYSTEM Upper Mississippi Basin					
Illinois: Havana, Ill.	14	24	Mar. 7	**14.4	25
Meramec: Sullivan, Mo.	11	21	21	11.6	21
Pacific, Mo.	11	22	22	**12.7	22
Missouri Basin					
Grand: Chillicothe, Mo.	24	20	21	25.4	20
Sumner, Mo.	26	19	23	30.5	21
Brunswick, Mo.	12	21	21	14.0	21
Chariton: Novinger, Mo.	20	19	21	21.9	20
Lamine: Clifton City, Mo.	15	20	20	20.2	20
Black Vermillion: Frankfort, Kans.	19	19	19	21.0	19
Ohio Basin					
Tygart: Dailey, W. Va.	[illegible]	--	--	11.1	7
Belington W. Va.	14	7	7	14.0	7
Philippi, W. Va.	17	7	7	18.0	7
Monongahela; Lock 4, Charleroi, Pa.	24	7	8	26.0	7
Lock 2, Braddock, Pa.	26	7	7	26.0	7
Little Kanawha: Glenville, W.Va.	23	7	7	24.4	7
Paint Creek: Bourneville, Ohio	10	6	7	12.8	[illegible]
Scioto: La Rue, Ohio	11	21	23	11.6	22
Circleville, Ohio	14	23	24	14.8	23
Piketon, Ohio	15	7	7	16.6	7
		23	24	16.1	23 & 24
Kentucky: Jackson, Ky.	29	27	Mar. 2	37.3	28
Barren: Bowling Green, Ky.	28	23	25	E 30.5	23
Rough: Dundee, Ky.	25	7	11	26.5	8
		22	†	26.8	24
Green: Mundfordville, Ky.	28	8	9	----	--
		23	25	----	--
Lock 6, Brownsville, Ky.	28	7	10	----	--
		23	26	31.9	24
Lock 4, Woodbury, Ky.	33	7	12	38.4	9
		22	†	----	--

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.) Ohio Basin (Cont'd.)					
Lock 2, Rumsey, Ky.	34	11	15	35.6	13
		25	†	----	--
White: Edwardsport, Ind.	12	28	†	----	--
Petersburg, Ind.	16	28	†	----	--
South Chickamauga Creek: Chickamauga, Tenn.	10	6	8	14.2	7
Elk: Fayetteville, Tenn.	659	22	23	659.8	22
Duck: Columbia, Tenn.	32	22	23	33.1	23
Centerville, Tenn.	22	23	25	22.4	24
Tennessee: Gilbertsville, Tenn.	320	23	†	324.2	27
Ohio: Dam 47, Newburgh, Ind.	38	27	†	----	--
Dam 48, Cypress, Ind.	38	28	†	----	--
Mt. Vernon, Ind.	35	28	†	----	--
Shawneetown, Ill.	33	27	†	----	--
Dam 50, Fords Ferry, Ky.	34	26	†	----	--
Dam 52, Brookport, Ill.	37	27	†	----	--
Cairo, Ill.	40	25	†	40.8	27
Red Basin					
Sulphur: Hagansport, Tex.	38	--	--	41.0	5
Naples, Tex.	22	11	11	22.1	11
WEST GULF OF MEXICO DRAINAGE					
Nezpique Bayou: Basile, La.	22	6	13	31.8	8
Mermentau: Mermentau, La.	5	7	16	11.3	10
Calcasieu: Oakdale, La.	12	6	7	12.5	6
Kinder, La.	16	6	12	21.6	8
Old Town Bay, La.	4	8	13	8.5	9
Sabine: Mineola, Tex.	14	9	12	15.7	11
Trinity: Liberty, Tex.	24	7	11	25.9	9
Lavaca: Edna, Tex.	21	6	7	22.1	7
Navidad: Ganado, Tex	21	6	8	25.5	8
PACIFIC COAST DRAINAGE					
Green: Auburn, Wash.	63	8	8	65.9	8
Snohomish: Snohomish, Wash.	23	8	9	27.3	8
Snoqualmie: Carnation, Wash.	51	8	9	53.0	8

* Provisional.
** Highest stage observed.
† Continued at end of month.
E Estimated.

RADIOSONDE DATA

Average monthly values

Table 20

FEBRUARY 1955

Standard pressure surface (mb)	ALBUQUERQUE, N. MEX. (837 MB.)				ANCHORAGE, ALASKA (1008 MB.)				ANNETTE, ALASKA (1013 MB.)				ATLANTA, GA. (987 MB.)				BARROW, ALASKA (1026 MB.)				BETHEL, ALASKA (1015 MB.)				BISMARCK, N. DAK. (960 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	1,619	2.9	33	28	42	-6.9	70	28	37	2.4	83	28	309	7.9	69	28	8	-32.1	45	28	4	-15.5	78	28	505	-13.0	77
1,000--	28	152			28	89			28	141	2.0	82	28	197			28	189	-29.6	69	28	118			28	186		
950----	28	584			28	493	-7.2	67	28	555	-1.1	79	28	625	8.2	60	28	566	-26.2	67	28	518	-10.8	69	28	583	-13.3	72
900----	28	1,031			28	910	-7.9	64	28	982	-3.9	81	28	1,067	6.1	62	28	948	-24.9	68	28	925	-10.4	63	28	993	-11.8	70
850----	28	1,495			28	1,352	-9.9	64	28	1,431	-6.5	80	28	1,534	4.8	55	28	1,364	-24.0	64	28	1,364	-11.2	59	28	1,433	-10.2	64
800----	28	1,987	1.8	30	28	1,818	-11.7	64	28	1,902	-9.3	75	28	2,027	3.4	45	28	1,805	-25.0	60	28	1,828	-12.8	56	28	1,899	-10.9	56
750----	28	2,511	-1.7	34	28	2,314	-13.9	59	28	2,406	-12.1	70	28	2,558	1.9	40	28	2,283	-26.4	56	28	2,324	-14.8	52	28	2,399	-12.4	55
700----	28	3,049	-5.5	39	28	2,831	-16.6	55	28	2,923	-14.8	65	28	3,104	.1	36	28	2,769	-28.6	52	28	2,837	-17.4	50	28	2,918	-14.3	55
650----	28	3,631	-9.3	42	28	3,388	-20.2	57	28	3,488	-18.0	63	28	3,699	-3.0	35	28	3,307	-31.3	45	27	3,390	-20.7	51	28	3,485	-17.2	56
600----	28	4,240	-12.9	37	28	3,972	-23.6	56	28	4,074	-21.5	58	27	4,326	-6.7	37	28	3,859	-34.5	44	27	3,970	-24.1	48	28	4,073	-20.5	55
550----	28	4,901	-17.2	33	28	4,603	-27.6	55	28	4,713	-25.7	53	27	5,002	-11.4	39	28	4,470	-37.9		27	4,604	-28.3	46	28	4,715	-24.6	56
500----	28	5,606	-22.1		28	5,282	-32.0	56	28	5,394	-30.1	55	27	5,724	-16.5	41	28	5,114	-41.5		27	5,276	-32.7	47	27	5,399	-29.3	54
450----	28	6,383	-27.5		28	6,024	-36.8		28	6,145	-34.8	58	27	6,517	-21.9	40	28	5,833	-45.1		27	6,019	-36.8		27	6,154	-34.4	50
400----	28	7,210	-33.3		28	6,825	-42.1		28	6,949	-40.5		27	7,366	-27.5	42	28	6,603	-48.5		27	6,818	-41.6		27	6,958	-39.9	
350----	28	8,134	-39.7		28	7,716	-47.7		28	7,847	-46.2		27	8,313	-34.5	42	28	7,475	-51.1		27	7,711	-47.5		27	7,856	-46.4	
300----	28	9,172	-46.0		28	8,721	-52.0		28	8,857	-51.9		27	9,372	-42.6		28	8,472	-52.6		27	8,715	-52.8		27	8,863	-53.0	
250----	28	10,365	-52.4		28	9,894	-53.7		27	10,026	-56.4		26	10,577	-51.8		28	9,650	-52.0		27	9,883	-54.6		27	10,024	-57.2	
200----	28	11,789	-57.2		28	11,329	-53.1		26	11,451	-56.3		26	11,999	-58.0		26	11,098	-50.5		27	11,309	-53.9		27	11,436	-55.5	
175----	28	12,632	-57.2		27	12,180	-51.2		26	12,300	-55.1		26	12,841	-57.6		25	11,965	-50.3		27	12,169	-52.5		27	12,290	-54.0	
150----	28	13,607	-57.1		25	13,176	-51.1		26	13,286	-54.0		26	13,810	-59.4		24	12,965	-50.0		25	13,175	-52.5		27	13,279	-53.6	
125----	27	14,757	-59.6		24	14,360	-51.7		25	14,456	-54.0		25	14,938	-62.3		23	14,144	-50.3		19	14,355	-52.2		27	14,449	-54.3	
100--	26	16,140	-62.9		24	15,806	-51.9		22	15,877	-55.6		23	16,312	-66.0		22	15,593	-50.7		12	15,830	-53.8		26	15,868	-56.7	
80-----	25	17,504	-63.9		24	17,248	-52.9		21	17,300	-56.1		15	17,656	-68.0		19	17,033	-51.0		7	17,316	-55.7		25	17,275	-57.8	
60-----	14	19,252	-64.3		21	19,087	-53.8		12	19,099	-56.5		10	19,364	-65.9		14	18,909	-52.1						20	19,084	-59.1	
50-----	8	20,368	-63.3		19	20,258	-54.7		9	20,258	-57.5		[illegible]	20,470	-63.9		8	20,093	-52.0						13	20,225	-59.5	
40-----	5	21,733	-63.0		15	21,690	-56.3																		7	21,597	-61.4	
30-----					7	23,543	-57.3																					

Standard pressure surface (mb)	BOISE, IDAHO (920 MB.)				BROWNSVILLE, TEX. (1018 MB.)				BUFFALO, N. Y. (1000 MB.)				BURRWOOD, LA. (1021 MB.)				CARIBOU, ME. (998 MB.)				CHARLESTON, S. C. (1023 MB.)				COLUMBIA, MO. (992 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	868	-2.2	76	28	7	16.5	80	28	182	-3.6	82	26	3	14.0	89	28	191	-10.2	74	27	13	9.2	79	28	238	0.5	73
1,000--	28	195			28	159	16.1	78	28	178			26	180	15.0	78	28	172			27	202	11.6	66	28	167		
950----	28	611			28	598	13.7	76	28	585	-4.9	74	26	617	13.0	75	28	571	-9.4	70	27	634	9.8	59	28	583	-.2	70
900----	28	1,039	-.6	62	28	1,049	12.3	71	28	1,008	-5.7	70	26	1,066	10.5	69	28	987	-9.7	65	27	1,078	7.5	54	28	1,012	-.5	63
850----	28	1,495	-2.3	56	28	1,528	11.4	59	28	1,455	-7.2	70	26	1,540	8.4	61	28	1,427	-9.9	60	27	1,547	5.3	47	28	1,469	-1.2	54
800----	28	1,974	-5.0	57	28	2,034	10.3	45	28	1,926	-8.7	65	26	2,040	7.0	56	28	1,894	-11.1	58	27	2,040	3.7	41	28	1,951	-2.5	53
750----	28	2,484	-7.7	57	28	2,578	8.4	35	28	2,430	-10.8	60	26	2,573	5.2	43	28	2,390	-12.7	57	27	2,572	2.2		28	2,467	-4.7	49
700----	28	3,012	-11.2	55	28	3,136	5.7	30	28	2,953	-12.5	52	26	3,130	3.3	32	28	2,911	-15.2	55	27	3,118	-.3		28	3,001	-7.5	43
650----	28	3,584	-14.2	49	28	3,740	1.6	32	28	3,523	-14.7		26	3,726	.2		28	3,474	-18.1	51	27	3,719	-2.3		28	3,578	-10.9	42
600----	28	4,180	-17.7	42	28	4,378	-2.8	33	27	4,115	-18.1	52	26	4,364	-4.1		27	4,066	-21.1	47	27	4,340	-6.3	32	28	4,185	-14.4	41
550----	28	4,831	-21.5	40	28	5,062	-7.3		27	4,761	-22.4	50	26	5,043	-8.2		27	4,709	-25.0	46	27	5,020	-10.6	33	28	4,840	-18.7	43
500----	28	5,522	-26.6	44	28	5,797	-12.3		26	5,445	-27.2	53	26	5,778	-13.1		27	5,389	-29.2	48	27	5,741	-15.6	36	28	5,543	-23.2	40
450----	27	6,282	-31.9	48	27	6,601	-18.0		26	6,199	-32.4		26	6,580	-18.8		27	6,144	-34.1		27	6,537	-20.8		28	6,314	-28.5	
400----	27	7,099	-37.5		27	7,466	-23.8		26	7,017	-37.9		26	7,440	-25.1		27	6,949	-39.9		27	7,388	-26.7		28	7,140	-34.3	
350----	27	8,008	-43.8		26	8,422	-31.3		26	7,924	-43.9		26	8,395	-32.5		27	7,849	-45.7		27	8,338	-34.1		28	8,061	-40.5	
300----	27	9,028	-50.2		26	9,495	-39.6		24	8,960	-49.5		26	9,462	-40.8		27	8,862	-51.2		27	9,399	-41.9		27	9,092	-47.8	
250----	27	10,203	-55.5		26	10,716	-48.9		23	10,140	-55.1		26	10,675	-50.4		26	10,023	-54.7		27	10,609	-50.9		27	10,276	-54.0	
200----	26	11,628	-56.8		25	12,152	-56.7		21	11,554	-56.7		26	12,103	-57.2		26	11,449	-54.8		27	12,035	-57.5		27	11,691	-57.3	
175----	26	12,474	-56.6		25	12,994	-58.7		17	12,401	-55.5		24	12,941	-58.7		26	12,305	-52.9		27	12,879	-57.2		26	12,538	-55.8	
150----	26	13,456	-54.8		23	13,959	-61.5		15	13,375	-56.1		24	13,903	-61.4		26	13,295	-53.9		27	13,848	-59.6		25	13,514	-56.4	
125----	24	14,615	-56.2		22	15,078	-65.8		8	14,583	-58.6		24	15,021	-65.7		25	14,459	-54.9		26	14,975	-63.4		22	14,659	-58.6	
100----	23	16,029	-58.1		19	16,412	-70.6		6	15,994	-60.9		20	16,348	-69.3		25	15,877	-56.8		25	16,327	-67.9		18	16,063	-61.2	
80-----	21	17,424	-59.1		14	17,726	-72.9		5	17,389	-63.0		16	17,670	-70.2		19	17,268	-57.5		20	17,655	-68.8		15	17,439	-61.9	
60-----	14	19,216	-59.6		8	19,413	-70.4		5	19,153	-65.2		10	19,405	-68.7		17	19,073	-59.8		13	19,364	-67.4		10	19,211	-63.4	
50-----	13	20,362	-60.8		5	20,503	-67.5						6	20,525	-65.6		10	20,207	-60.1		10	20,466	-65.2		8	20,326	-62.8	
40-----	8	21,767	-61.0														7	21,590	-59.5		6	21,832	-61.5		6	21,693	-62.0	

Standard pressure surface (mb)	DODGE CITY, KANS. (925 MB.)				EL PASO, TEX. (882 MB.)				ELY, NEV. (808 MB.)				FAIRBANKS, ALASKA (1002 MB.)				FORT HUACHUCA, ARIZ. (857 MB.)				GLASGOW, MONT. (942 MB.)				GRAND JUNCTION, COLO. (854 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	792	-1.7	72	28	1,195	8.9	26	28	1,908	-7.1	70	28	135	-21.2	62	15	1,428	6.9		28	648	-11.5	76	28	1,474	-5.9	71
1,000--	28	167			28	134			28	207			28	152			15	137			28	182			28	213		
950----	28	583			28	575			28	629			28	537	-18.3	57	15	573			28	585			28	626		
900----	28	1,014	-.4	55	28	1,027			28	1,060			28	937	-17.7	56	15	1,017			28	998	-8.9	71	28	1,057		
850----	28	1,471	-.6	48	28	1,499	8.9	21	28	1,510			28	1,365	-16.9	56	15	1,492	6.8		28	1,440	-9.1	59	28	1,506		
800----	28	1,955	-1.5	43	28	1,996	5.3	23	28	1,990	-3.6	58	28	1,820	-16.8	56	15	1,988	4.0		28	1,909	-10.2	56	28	1,984	-4.9	53
750----	28	2,471	-3.8	40	28	2,528	2.1	26	28	2,501	-5.3	53	28	2,308	-18.2	57	15	2,514	.7		28	2,408	-12.4	58	28	2,495	-6.9	50
700----	28	3,008	-6.9	40	28	3,072	-1.4	27	28	3,037	-8.6	54	28	2,816	-20.8	55	15	3,060	-2.7		28	2,929	-14.6	59	28	3,025	-10.1	51
650----	28	3,587	-10.4	38	28	3,663	-5.0		28	3,614	-12.0	54	28	3,371	-23.9	51	15	3,649	-6.2		28	3,493	-17.7	59	28	3,599	-13.2	50
600----	28	4,195	-14.2	36	28	4,282	-9.2		28	4,217	-14.9	48	28	3,941	-27.0	50	15	4,264	-10.0		28	4,082	-21.0	58	28	4,197	-16.4	49
550----	27	4,854	-18.4		27	4,957	-13.5		28	4,874	-18.7	48	28	4,569	-31.1	51	15	4,929	-14.1		28	4,722	-25.0	56	28	4,851	-20.6	49
500----	27	5,554	-23.2		27	5,671	-18.6		27	5,573	-23.6	47	28	5,232	-35.5	51	15	5,646	-18.9		27	5,407	-29.4	57	28	5,545	-25.1	46
450----	27	6,326	-29.0		27	6,460	-24.3		27	6,344	-29.2	48	28	5,969	-40.4		15	6,422	-24.3		27	6,159	-34.6	56	28	6,308	-30.2	43
400----	27	7,149	-34.8		27	7,296	-30.5		27	7,166	-35.1		27	6,758	-44.9		15	7,270	-30.6		27	6,962	-40.5		28	7,130	-36.2	
350----	27	8,069	-40.9		25	8,223	-37.6		27	8,085	-41.5		27	7,641	-49.6		15	8,204	-37.7		27	7,858	-47.5		28	8,042	-42.7	
300----	27	9,102	-47.4		25	9,270	-44.9		27	9,114	-48.1		26	8,647	-53.6		15	9,250	-45.0		25	8,867	-53.9		28	9,067	-49.0	
250----	26	10,284	-53.0		24	10,467	-53.1		27	10,297	-54.1		26	9,816	-53.5		15	10,446	-52.9		24	10,034	-57.5		28	10,248	-53.8	
200----	26	11,710	-56.4		24	11,884	-57.8		27	11,714	-57.8		26	11,256	-51.7		12	11,848	-56.6		24	11,445	-56.3		27	11,668	-55.5	
175----	26	12,557	-55.9		24	12,724	-58.1		26	12,547	-57.0		25	12,113	-50.8		11	12,685	-55.2		23	12,305	-54.6		27	12,518	-55.5	
150----	26	13,538	-55.8		24	13,690	-59.9		26	13,524	-56.2		25	13,117	-50.6		10	13,669	-56.4		22	13,291	-54.1		27	13,502	-54.7	
125----	26	14,693	-58.0		19	14,816	-62.4		25	14,671	-56.9		24	14,308	-51.1						22	14,460	-54.8		25	14,657	-56.8	
100----	23	16,086	-60.3		15	16,190	-64.9		25	16,075	-59.2		23	15,760	-51.1						22	15,881	-56.5		23	16,065	-59.3	
80-----	21	17,463	-62.1		11	17,543	-65.9		21	17,462	-61.9		21	17,214	-51.8						17	17,295	-57.4		20	17,453	-61.4	
60-----	14	19,234	-62.6		7	19,284	-66.5		14	19,240	-62.7		20	19,072	-53.3						13	19,107	-58.8		13	19,249	-61.8	
50-----	8	20,362	-62.5						5	20,376	-61.6		15	20,252	-53.8						8	20,265	-59.4		9	20,383	-62.7	
40-----													8	21,729	-56.4													
30-----													6	23,590	-58.0													

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Standard pressure surface (mb.)	GREAT FALLS, MONT (887 MB.)				GREEN BAY, WIS (995 MB.)				GREENSBORO, N. C. (992 MB.)				HATTERAS, N. C. (1021 MB.)				HILO, T. H. (1013 MB.)				INTERNAT. FALLS, MINN. (977 MB.)				KOTZEBUE, ALASKA (1024 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	1,123	-6.3	69	28	210	-7.8	74	28	273	3.8	67	28	3	6.6	60	28	9	22.0	78	28	360	-14.5	64	28	5	-27.6	61
1,000	28	170			28	170			28	204			26	200	8.2	70	28	125	20.8	78	28	178			28	176	-24.0	55
950	28	584			28	572	-6.9	69	28	626	5.4	51	28	626	6.0	66	28	571	17.3	82	28	569	-12.1	65	28	564	-20.4	55
900	28	1,011			28	990	-8.7	66	28	1,066	3.7	52	28	1,064	4.4	59	28	1,027	14.1	86	28	980	-14.1	67	28	953	-19.9	55
850	28	1,456	-5.6	55	28	1,432	-9.0	63	28	1,528	1.7	53	28	1,528	2.8	53	28	1,508	11.1	87	28	1,413	-14.3	66	28	1,378	-19.5	52
800	28	1,929	-8.2	60	28	1,900	-9.9	55	28	2,016	.3	47	28	2,017	1.4	45	28	2,012	8.7	74	28	1,873	-14.5	61	28	1,827	-20.2	48
750	28	2,436	-10.5	63	28	2,404	-10.9	48	28	2,536	-1.8		28	2,543	-.5		28	2,553	6.4	66	28	2,369	-15.4	59	28	2,312	-21.9	43
700	28	2,956	-13.2	63	28	2,925	-12.7	43	28	3,078	-4.3		28	3,083	-3.2		28	3,109	3.9	58	28	2,880	-16.9	55	28	2,808	-24.1	39
650	28	3,525	-16.6	60	28	3,495	-15.6	42	28	3,664	-6.9		28	3,674	-6.0		28	3,709	.2	50	28	3,442	-19.1	52	28	3,354	-26.7	
600	28	4,114	-20.5	58	28	4,087	-19.0	41	28	4,280	-10.4		28	4,289	-9.3	38	28	4,345	-3.4	49	28	4,025	-22.4	55	28	3,919	-29.6	
550	28	4,754	-24.9	56	28	4,733	-22.9	40	27	4,949	-14.6		28	4,962	-13.6		28	5,027	-7.6	46	28	4,667	-26.4	56	28	4,540	-33.0	
500	28	5,439	-29.9	57	28	5,421	-27.4	38	27	5,662	-18.4		28	5,671	-18.0	38	28	5,764	-12.3	40	28	5,340	-31.2	51	28	5,200	-36.8	
450	28	6,186	-35.5		28	6,175	-32.5	39	26	6,444	-23.9		28	6,464	-23.0	40	28	6,566	-18.0		28	6,088	-36.3		28	5,932	-41.0	
400	28	6,993	-41.1		28	6,992	-38.3		26	7,286	-30.0		28	7,307	-28.8	43	27	7,431	-24.2		27	6,883	-41.9		28	6,715	-45.5	
350	28	7,888	-47.3		28	7,897	-44.6		26	8,223	-37.0		28	8,249	-35.4	36	27	8,391	-31.1		27	7,775	-47.9		28	7,596	-50.2	
300	28	8,892	-53.3		28	8,913	-50.6		24	9,288	-44.8		28	9,305	-43.0		27	9,465	-38.9		27	8,778	-53.4		28	8,594	-53.1	
250	28	10,055	-56.5		28	10,086	-55.0		24	10,483	-53.2		28	10,510	-51.4		27	10,693	-46.9		27	9,941	-56.4		28	9,766	-53.0	
200	28	11,467	-56.3		28	11,508	-55.0		22	11,901	-57.3		28	11,936	-57.3		27	12,140	-55.9		27	11,359	-54.8		26	11,209	-51.6	
175	28	12,316	-55.7		28	12,363	-53.9		21	12,739	-57.1		28	12,779	-57.2		27	12,960	-59.9		26	12,216	-53.6		26	12,077	-51.4	
150	28	13,299	-54.8		27	13,347	-54.1		21	13,713	-58.2		28	13,752	-58.3		26	13,934	-63.8		26	13,209	-53.1		23	13,086	-51.4	
125	27	14,461	-54.9		27	14,512	-55.8		19	14,855	-61.5		27	14,892	-61.2		24	15,043	-68.1		22	14,378	-54.0		14	14,283	-51.4	
100	26	15,886	-57.3		26	15,926	-57.6		17	16,214	-64.6		26	16,266	-65.2		19	16,367	-73.9		17	15,811	-56.2		11	15,712	-51.2	
80	23	17,295	-58.2		25	17,328	-58.8		15	17,557	-65.7		19	17,628	-66.5		13	17,669	-73.7		15	17,227	-58.6		8	17,113	-50.7	
60	20	19,102	-60.1		16	19,101	-59.5		12	19,274	-65.3		11	19,381	-67.3		8	19,358	-69.0		11	19,021	-60.1		6	18,969	-51.9	
50	14	20,244	-61.4		10	20,242	-60.4		11	20,395	-63.6		8	20,479	-65.9		5	20,443	-67.4		7	20,171	-61.2		5	20,154	-52.6	
40	5	21,652	-61.8		6	21,635	-61.7		9	21,773	-62.0		5	21,829	-62.9						6	21,557	-62.1					
30									5	23,558	-56.7																	

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1020 MB.)				LANDER, WYO (826 MB.)				LAS VEGAS, NEV. (941 MB.)				LITTLE ROCK, ARK. (1012 MB.)				MAZATLAN, MEXICO (1012 MB.)				MC GRATH, ALASKA (1006 MB.)				MEDFORD, ORE. (975 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	27	5	12.1	83	28	1,696	-7.7	66	28	660	7.9	29	28	79	7.2	67	28	14	18.4	76	28	103	-19.4	70	28	401	4.1	79
1,000	27	171	12.5	77	28	178			23	154			28	172	7.5	59	28	115	18.3	70	28	150			28	194		
950	27	602	11.1	73	28	589			28	583			28	600	6.2	58	28	573	21.4	36	28	536	-19.0	70	28	617	5.3	63
900	27	1,051	9.7	72	28	1,018			28	1,030	8.3	28	28	1,037	4.9	56	28	1,025	19.1	34	28	936	-14.9	71	28	1,054	2.9	62
850	27	1,525	8.2	65	28	1,470			28	1,499	4.8	32	28	1,502	3.4	57	28	1,513	15.8	34	28	1,369	-14.6	67	28	1,515	.3	62
800	27	2,025	6.9	53	28	1,946	-4.4	53	28	1,990	1.4	34	28	1,993	1.8	51	28	2,024	12.4	35	28	1,827	-15.6	62	28	1,998	-2.5	58
750	27	2,563	5.0		28	2,458	-6.5	46	28	2,508	-1.8	36	28	2,519	.0	46	28	2,572	8.6	43	28	2,317	-17.3	59	28	2,514	-4.9	50
700	27	3,115	2.7		28	2,987	-10.2	47	28	3,052	-5.0	34	28	3,062	-2.1	35	28	3,128	5.1		28	2,826	-19.8	57	28	3,048	-7.4	39
650	27	3,713	-.5		28	3,559	-14.2	50	28	3,634	-8.4		27	3,657	-5.2	33	28	3,734	1.3		27	3,376	-23.0	53	28	3,627	-10.6	37
600	27	4,347	-4.5		28	4,156	-17.9	50	28	4,247	-12.2		27	4,275	-8.8	37	28	4,369	-2.7		27	3,951	-26.5	53	28	4,233	-14.1	34
550	27	5,022	-8.9		28	4,805	-21.8	49	28	4,910	-16.2		27	4,946	-13.2	38	28	5,054	-7.1		27	4,579	-30.2	55	28	4,891	-18.3	39
500	26	5,757	-13.8		28	5,496	-26.4	48	28	5,618	-21.0		27	5,663	-17.9		27	5,788	-12.2		25	5,233	-34.8		28	5,592	-23.0	37
450	25	6,560	-19.3		28	6,253	-32.3	48	28	6,394	-26.9		27	6,449	-23.4		26	6,592	-17.8		25	5,968	-39.7		28	6,363	-28.3	
400	24	7,416	-25.4		28	7,069	-38.5		28	7,226	-33.6		27	7,294	-29.4		25	7,458	-24.2		23	6,740	-44.9		28	7,189	-34.4	
350	24	8,371	-32.5		28	7,972	-45.4		28	8,148	-40.6		26	8,233	-36.0		24	8,417	-31.5		23	7,622	-49.5		28	8,108	-41.1	
300	24	9,438	-40.7		28	8,982	-52.3		28	9,180	-47.8		26	9,285	-43.7		20	9,491	-40.2		21	8,594	-52.5		28	9,137	-49.1	
250	23	10,646	-50.2		27	10,149	-56.2		28	10,363	-54.7		26	10,486	-52.0		13	10,703	-50.2		21	9,769	-51.8		28	10,310	-56.6	
200	22	12,072	-58.2		26	11,563	-57.4		27	11,777	-60.4		26	11,907	-57.6		8	12,133	-57.3		21	11,221	-50.1		28	11,706	-60.7	
175	22	12,911	-58.5		26	12,407	-57.0		26	12,613	-59.5		26	12,749	-56.9		7	12,966	-58.2		19	12,089	-49.4		28	12,538	-58.9	
150	22	13,876	-60.0		26	13,385	-55.8		25	13,573	-58.3		26	13,722	-58.2						18	13,106	-49.4		28	13,507	-57.5	
125	20	15,005	-63.8		26	14,546	-55.9		24	14,713	-60.1		25	14,864	-60.7						18	14,297	-49.9		28	14,656	-58.3	
100	17	16,357	-67.8		25	15,964	-58.2		20	16,087	-62.3		23	16,240	-63.7						18	15,752	-50.5		28	16,056	-59.3	
80	13	17,685	-69.3		23	17,355	-59.8		17	17,451	-63.6		19	17,600	-65.5						17	17,211	-51.4		27	17,445	-60.9	
60	7	19,391	-67.0		20	19,144	-61.4		14	19,219	-63.6		12	19,345	-64.8						15	19,064	-53.7		25	19,227	-61.5	
50					19	20,274	-62.3		13	20,334	-64.2		9	20,452	-64.5						12	20,255	-54.2		23	20,356	-61.8	
40					14	21,643	-62.8		9	21,696	-64.5		8	21,824	-62.1						6	21,701	-54.9		14	21,741	-62.6	
30					8	23,433	-60.7		5	23,446	-63.2		5	23,614	-59.8										6	23,552	-61.8	

Standard pressure surface (mb.)	MIAMI, FLA. (1021 MB.)				MIDLAND, TEXAS (917 MB.)				NANTUCKET, MASS. (1020 MB.)				NASHVILLE, TENN. (1001 MB.)				NOME, ALASKA (1021 MB.)				NORTH PLATTE, NEBR. (918 MB.)				NORTHWAY, ALASKA (952 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	4	18.9	74	28	871	7.9	44	28	14	0.0	83	28	177	4.7	76	28	7	-19.2	69	28	848	-6.5	80	28	524	-21.7	68
1,000	28	184	18.4	72	28	140			28	175	.4	73	28	187			28	160			28	169			28	160		
950	28	620	15.5	74	28	572			28	588	-.8	70	28	607	4.5	60	28	549	-17.2	57	28	578			28	542		
900	28	1,078	12.6	75	28	1,023	9.4	39	28	1,017	-2.7	66	28	1,045	3.2	58	28	950	-16.5	55	28	1,002	5.1	69	28	940	-17.9	65
850	28	1,556	10.1	71	28	1,496	8.4	30	28	1,468	-4.2	61	28	1,507	2.3	54	28	1,380	-16.3	51	28	1,450	-5.1	57	28	1,369	-14.9	63
800	28	2,059	8.4	55	28	1,994	5.9	27	28	1,945	-5.4	55	28	1,995	.8	50	28	1,835	-17.1	48	28	1,926	-5.7	52	28	1,829	-13.9	59
750	28	2,599	7.9		28	2,525	3.2	28	28	2,456	-6.9	55	28	2,519	-1.3	44	28	2,322	-18.8	46	28	2,433	-7.9	50	28	2,325	-15.9	56
700	28	3,159	5.3		28	3,075	.1	26	28	2,987	-9.3	51	28	3,059	3.8	40	28	2,829	-21.2	45	28	2,964	-10.5	50	28	2,834	-18.7	58
650	28	3,762	2.0		28	3,669	-3.8	28	28	3,566	-12.2	47	28	3,649	-6.7	44	28	3,380	-23.9	44	28	3,535	-13.6	52	28	3,390	-22.2	59
600	28	4,402	-1.5		28	4,292	-8.0	31	28	4,165	-15.6	43	28	4,261	-10.6	47	28	3,953	-27.0	42	28	4,135	-17.3	50	28	3,966	-26.0	56
550	27	5,084	-5.8		28	4,966	-12.4		28	4,821	-19.4	45	28	4,933	-14.6	44	27	4,580	-30.6		28	4,780	-21.5	48	27	4,594	-30.3	52
500	26	5,829	-10.7		28	5,684	-17.4		28	5,519	-23.7		28	5,641	-18.9	40	27	5,248	-34.6		28	5,476	-26.5	49	27	5,259	-34.5	50
450	26	6,635	-15.9		28	6,474	-22.9		28	6,289	-28.9		28	6,428	-24.2	41	27	5,984	-39.2		28	6,233	-31.6	46	27	5,997	-39.2	
400	26	7,509	-22.5		27	7,326	-28.8		28	7,115	-34.1		27	7,263	-30.2		27	6,776	-44.0		28	7,053	-37.2		27	6,785	-44.5	
350	26	8,474	-29.8		27	8,267	-36.0		28	8,037	-40.3		27	8,199	-36.9		27	7,661	-48.9		28	7,962	-43.6		27	7,668	-49.9	
300	26	9,553	-38.3		27	9,319	-43.8		28	9,072	-46.8		27	9,249	-44.0		27	8,663	-52.7		28	8,982	-49.9		27	8,664	-53.9	
250	25	10,782	-47.9		27	10,518	-52.8		28	10,262	-52.8		27	10,451	-52.0		27	9,834	-53.9		28	10,160	-54.3		27	9,830	-54.5	
200	25	12,224	-55.5		27	11,936	-57.7		28	11,687	-55.9		27	11,873	-57.6		27	11,269	-52.7		28	11,582	-55.9		27	11,267	-51.7	
175	25	13,071	-57.7		26	12,774	-58.7		28	12,538	-54.7		27	12,718	-56.4		25	12,128	-51.1		28	12,433	-54.7		27	12,133	-51.2	
150	25	14,035	-61.5		26	13,739	-59.8		28	13,523	-54.8		27	13,694	-57.6		25	13,131	-50.6		28	13,418	-54.5		27	13,135	-50.9	
125	25	15,150	-66.6		25	14,870	-62.3		27	14,688	-57.4		27	14,838	-60.4		25	14,318	-50.8		28	14,580	-56.3		26	14,319	-51.6	
100	25	16,481	-71.7		25	16,237	-65.3		24	16,081	-59.8		26	16,214	-63.4		25	15,768	-51.2		28	15,991	-58.0		26	15,765	-52.3	
80	23	17,788	-74.7		19	17,571	-67.0		20	17,459	-60.7		22	17,573	-64.9		25	17,217	-51.5		25	17,387	-59.6		25	17,203	-53.1	
60	14	19,460	-72.8		17	19,310	-66.6		12	19,269	-61.4		18	19,321	-64.4		21	19,072	-52.2		22	19,180	-61.5		24	19,054	-54.6	
50	11	20,538	-69.9		10	20,419	-66.0		11	20,397	-61.1		13	20,426	-63.6		19	20,241	-52.8		19	20,302	-62.0		21	20,211	-55.5	
40	10	21,885	-66.1		5	21,769	-64.5		9	21,780	-60.4		8	21,812	-61.8		12	21,708	-53.4		15	21,683	-61.9		15	21,622	-57.3	
30	7	23,668	-59.4														7	23,561	-55.3		7	23,456	-61.9		7	23,424	-58.9	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb.)	OAKLAND, CALIF. (1021 MB.)				OKLAHOMA CITY, OKLA. (973 MB.)				OMAHA, NEBR. (971 MB.)				PHOENIX, ARIZ. (978 MB.)				[illegible] PA. ([illegible] MB.)				PORTLAND, ME. (1020 MB.)				[illegible] CITY, S. DAK. (904 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	[illegible]	10.4	77	28	391	3.9	69	28	403	- 6.5	84	28	341	12.3	[illegible]	28	[illegible]	- 0.7	72	28	[illegible]	- 3.4	77	28	966	[illegible]	76
1,000	28	177	10.6	63	28	162			[illegible]	[illegible]			[illegible]	152			[illegible]	187			[illegible]	[illegible]	[illegible]	70	[illegible]	171		
950	28	604	8.8	55	28	587	5.3	56	[illegible]	578	- 5.8	[illegible]	[illegible]	566	13.8	22	[illegible]	599	- 1.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
900	28	1,048	6.8	49	28	1,023	4.4	[illegible]	28	996	- 4.8	67	[illegible]	1,036	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- 6.2	[illegible]	28	1,004		
850	28	1,516	4.8	38	28	1,488	3.4	41	28	1,447	- 4.0	[illegible]	[illegible]	1,508	7.0	[illegible]	[illegible]	1,481	[illegible]	[illegible]	[illegible]	1,449	- 7.2	[illegible]	[illegible]	1,451	- 6.1	[illegible]
800	28	2,008	2.3	35	[illegible]	1,976	1.5	34	[illegible]	1,924	[illegible]	[illegible]	[illegible]	2,003	3.4	[illegible]	28	1,958	- 5.4	61	[illegible]	1,921	[illegible]	57	[illegible]	[illegible]	- 7.3	60
750	28	2,533	- [illegible]	33	28	2,501	- .9	34	[illegible]	2,439	- 7.3	55	[illegible]	2,529	- .4	[illegible]	28	2,469	[illegible]	[illegible]	[illegible]	2,425	-10.0	[illegible]	28	2,428	- 9.2	[illegible]
700	28	3,073	- 4.1		28	3,042	- 3.5		28	2,964	- 9.9	51	[illegible]	3,068	[illegible]		28	2,996	-10.3	57	[illegible]	[illegible]	-12.6	52	[illegible]	2,956	-11.6	59
650	28	3,660	- 7.6		28	3,631	- 6.9		[illegible]	3,543	-12.9	[illegible]	[illegible]	3,66[illegible]	- 6.7		[illegible]	3,572	-13.1	54	28	3,519	-15.6	51	[illegible]	3,526	-14.9	55
600	28	4,272	-11.5		28	4,244	-10.4		28	4,139	[illegible]	44	[illegible]	4,274	-10.2		28	[illegible]	-16.4	46	28	[illegible]	-18.6	49	[illegible]	4,121	-18.6	51
550	28	4,937	-15.8		28	4,914	-14.8		[illegible]	4,793	-20.7	12	[illegible]	4,943	[illegible]		28	[illegible]	-20.7	44	[illegible]	4,759	-22.1	47	[illegible]	[illegible]	-22.4	49
500	28	5,645	-20.6		28	5,622	-19.8		28	5,485	-25.8	13	[illegible]	5,654	-19.4		28	5,517	-25.4	46	28	5,451	[illegible]	46	27	5,461	-27.1	49
450	28	6,420	-26.6		28	6,406	-25.3		[illegible]	6,250	-31.3	[illegible]	[illegible]	6,435	-25.1		[illegible]	6,278	-30.3	47	27	6,210	-31.8		[illegible]	6,216	-32.4	[illegible]
400	28	7,254	-33.1		28	7,239	-31.5		[illegible]	7,063	-37.3		[illegible]	7,273	-31.2		28	7,102	-35.9	50	27	7,027	-37.2		27	7,032	-38.4	
350	28	8,17[illegible]	-40.3		28	8,170	-38.3		[illegible]	[illegible]	-43.8		[illegible]	8,205	-37.9		28	8,017	-42.2		27	7,937	-43.3		27	7,937	-45.0	
300	27	9,213	-48.4		28	9,213	-45.3		[illegible]	8,992	-50.2		27	9,245	-44.8		27	9,043	-49.0		[illegible]	8,959	[illegible]		24	[illegible]	-52.0	
250	25	10,410	-56.8		27	10,413	-52.9		28	10,167	-55.0		27	10,41[illegible]	-52.2		[illegible]	10,221	-55.8		25	10,149	-53.5		[illegible]	10,089	-55.6	
200	23	11,798	-62.3		27	11,831	-57.0		28	11,584	-56.2		27	[illegible]	-57.8		27	11,625	-59.2		[illegible]	11,583	-55.4		21	11,521	-54.4	
175	22	12,616	-61.1		27	12,67[illegible]	-56.6		28	12,433	-55.6		27	12,708	-57.7		27	12,464	-57.8		[illegible]	12,428	-54.2		21	12,378	-53.4	
150	22	13,577	-59.3		27	13,652	-57.6		[illegible]	13,416	-55.2		27	13,679	-57.9		25	13,419	-58.4		[illegible]	13,414	-54.6		20	13,368	-53.2	
125	19	14,711	-60.5		27	14,796	-60.2		28	14,573	-57.4		27	14,823	-60.0		19	[illegible]	-60.8		21	14,576	-56.6		20	14,539	-54.6	
100	17	16,085	-62.2		25	16,171	-62.4		28	15,974	-59.8		26	16,210	[illegible]		14	15,890	-63.4		21	15,983	-58.6		18	15,954	-56.5	
80	11	17,454	-62.9		19	17,539	-63.5		25	17,363	-61.1		24	[illegible]	-64.7		7	17,200	-65.2		[illegible]	[illegible]	-59.8		17	17,357	-57.6	
60	8	19,227	-63.4		14	19,2[illegible]	-64.3		16	[illegible]	-63.1		14	19,323	-64.9						[illegible]	19,146	-61.3		[illegible]	19,162	-59.8	
50	6	20,333	-62.6		11	20,315	-63.7		12	20,27[illegible]	-63.4		[illegible]	[illegible]	-64.9						[illegible]	[illegible]	-62.0		8	20,313	-59.8	
40	6	21,705	-63.4						5	[illegible]	-62.6		8	[illegible]	-63.2						10	21,647	-61.0		5	21,696	-61.6	
30																					5	[illegible]	-59.7					

Standard pressure surface (mb.)	ST. CLOUD, MINN. (982 MB.)				SAN ANTONIO, TEX ([illegible] MB.)				SAN JUAN, P. R. (1015 MB.)				SANTA MARIA, CALIF. (1012 MB.)				S. STE. MARIE, MICH. (995 MB.)				SPOKANE, WASH. (934 MB.)				SWAN ISLAND, W. I. (1015 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	316	-12.0	77	28	243	13.0	65	28	19	23.3	76	28	[illegible]	9.2	74	28	221	- 8.7	79	27	[illegible]	- 1.9	74	28	[illegible]	24.4	79
1,000	28	172			28	162			28	[illegible]	[illegible]	74	28	171	10.6	65	28	[illegible]			27	[illegible]			28	139	23.8	78
950	28	573	[illegible]	73	28	596	11.5	66	28	601	19.4	77	28	599	10.0	[illegible]	28	580	- 8.9	71	27	[illegible]			[illegible]	[illegible]	20.6	[illegible]
900	28	982	-10.2	67	28	1,045	9.6	67	28	1,061	[illegible]	[illegible]	28	1,046	8.0	44	28	995	- 9.8	[illegible]	27	[illegible]	- 2.5	65	28	1,052	17.5	78
850	28	1,423	[illegible]	61	28	1,518	7.7	[illegible]	28	1,545	12.9	75	28	1,515	5.3	44	28	1,435	[illegible]	66	27	1,469	- 4.9	[illegible]	28	1,539	14.3	77
800	28	1,891	- 9.9	56	28	2,017	7.5	40	28	2,053	11.0	57	28	2,008	3.1	[illegible]	28	1,899	-12.2	60	27	[illegible]	- 7.5	66	28	2,049	11.9	63
750	28	2,393	-11.5	54	28	2,555	6.3	30	28	2,601	[illegible]		28	2,534	1.1		28	[illegible]	14.0	56	27	[illegible]	-10.5	65	28	2,598	10.2	46
700	28	2,914	-13.6	52	28	3,110	3.1		28	3,162	7.8		28	3,081	[illegible]		28	2,912	-16.0	52	27	2,971	-13.5	57	28	3,161	8.2	
650	28	3,482	-16.6	52	[illegible]	3,708	[illegible]		28	3,780	4.9		28	3,670	- 5.5		28	3,475	-18.4	49	27	3,541	-16.6	52	[illegible]	3,776	[illegible]	
600	28	[illegible]	-19.7	44	28	4,340	- 5.2		28	4,419	1.3		28	4,290	- 9.2		28	4,060	-22.0	45	27	4,127	-20.6	[illegible]	[illegible]	4,418	1.3	
550	28	4,718	-24.1	43	28	5,020	-10.0		27	[illegible]	- 2.7		28	4,960	-13.6		28	4,701	-25.9	44	27	4,768	-24.7	[illegible]	[illegible]	[illegible]	- 2.9	
500	27	5,396	-29.2	46	28	5,746	-15.0		27	5,863	- 7.6		28	5,675	-18.6		28	5,380	[illegible]	41	27	[illegible]	-29.3	44	[illegible]	5,862	- 7.0	
450	27	6,148	-34.5	43	27	6,543	-20.4		27	6,684	-13.5		28	6,459	-24.5		27	6,123	-34.7		27	6,204	-34.4		27	6,687	-12.4	
400	27	6,954	-39.9		26	7,394	-26.6		27	7,559	[illegible]		28	7,298	-31.0		26	[illegible]	-39.7		27	7,011	-40.2		[illegible]	7,565	-18.9	
350	27	7,853	-46.3		26	8,343	-34.0		27	8,532	-27.9		28	8,230	-38.2		23	[illegible]	-45.8		27	7,911	-45.5		27	8,543	-26.8	
300	27	8,863	-52.0		26	9,403	-42.3		27	9,620	-36.3		27	[illegible]	-46.3		14	8,879	-51.3		26	[illegible]	-51.4		[illegible]	[illegible]	-35.4	
250	27	10,032	-55.5		26	10,610	-51.5		27	[illegible]	-44.8		27	[illegible]	-55.0		[illegible]	[illegible]	-54.5		26	[illegible]	-56.0		25	10,878	-44.5	
200	27	11,454	-54.5		26	12,032	-58.7		26	12,323	-54.7		27	[illegible]	-60.9		[illegible]	11,456	-53.7		25	[illegible]	-57.2		25	12,340	-53.8	
175	27	12,312	-53.1		25	12,872	-59.4		26	13,167	-59.6		27	12,695	-60.4						24	12,379	-55.2		25	13,187	-58.5	
150	27	13,303	-53.5		25	13,834	-60.3		26	14,119	[illegible]		26	13,655	-59.0						21	13,369	-54.2		[illegible]	14,144	-63.5	
125	27	14,471	-54.9		25	14,960	-64.2		26	15,215	-70.8		[illegible]	[illegible]	-60.3						12	14,538	-55.4		24	15,243	-69.8	
100	27	15,890	-56.6		21	16,307	-69.0		25	[illegible]	-77.1		[illegible]	16,168	-63.0										19	16,550	-76.4	
80	25	17,294	-58.5		18	17,626	-70.7		25	[illegible]	[illegible]		24	[illegible]	-64.0										[illegible]	17,842	-77.4	
60	23	19,099	-60.3		16	19,344	-69.1		20	19,442	-73.9		[illegible]	[illegible]	-65.0										[illegible]	[illegible]	-74.0	
50	17	20,215	-61.2		14	20,424	-66.8		15	20,514	-70.0		18	20,397	-63.9													
40	12	21,596	-61.3		12	21,782	-63.8		13	21,862	-64.4		12	21,758	-62.8													
30					10	13,560	-60.4		9	23,646	-57.8																	

Standard pressure surface (mb.)	TACUBAYA, MEXICO (773 MB.)				TAMPA, FLA. (1022 MB.)				TATOOSH ISLAND, WASH. (1017 MB.)				VERACRUZ, MEXICO (1014 MB.)				WASHINGTON, D. C. (1013 MB.)				YAKUTAT, ALASKA ([illegible] MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	15	2,306	15.4		28	7	15.3	76	28	31	[illegible]	79	25	[illegible]	21.9	[illegible]	28	[illegible]	1.6	[illegible]	28	12	- 0.6	87
1,000	15	59			28	194	16.3	68	28	[illegible]	4.5	77	25	131	20.8	79	[illegible]	193	2.9	[illegible]	[illegible]	98		
950	15	523			28	633	14.1	65	28	588	[illegible]	[illegible]	25	577	19.2	71	28	[illegible]	1.8	56	[illegible]	512	- 1.8	77
900	15	1,002			28	[illegible]	11.4	66	28	1,017	[illegible]	71	[illegible]	[illegible]	17.2	67	28	1,042	[illegible]	[illegible]	28	[illegible]	- 4.5	[illegible]
850	15	1,491			28	1,559	9.0	62	28	1,471	[illegible]	64	25	1,525	15.1	59	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	- 7.3	74
800	15	2,021			28	2,061	8.4	46	28	1,949	- 5.7	58	25	2,036	12.2	53	[illegible]	[illegible]	- 2.4	[illegible]	28	1,854	-10.0	70
750	15	2,573	14.1		28	2,602	6.8		28	[illegible]	- 8.1	[illegible]	25	2,582	9.3	52	[illegible]	[illegible]	- 4.6	[illegible]	28	2,354	-12.8	62
700	15	3,144	9.9		28	3,157	4.3		28	2,986	-10.7	48	25	3,145	7.1	[illegible]	[illegible]	3,031	- 7.3	46	[illegible]	2,871	-16.0	[illegible]
650	15	3,758	4.7		28	3,760	1.2		28	3,556	-14.1	49	25	3,755	[illegible]	[illegible]	28	[illegible]	-10.6	47	[illegible]	3,434	-19.4	55
600	15	4,400	- .4		28	4,396	- 2.4		28	4,154	-17.8	[illegible]	25	4,397	- .1		28	[illegible]	-14.1	45	[illegible]	4,016	-23.3	49
550	14	5,091	- 5.6		28	5,084	- 6.5		[illegible]	[illegible]	-21.9	54	[illegible]	[illegible]	- 3.6		28	4,874	-17.8	46	[illegible]	4,654	-27.3	45
500	13	5,832	- 9.6		28	5,819	-11.6		28	5,495	-26.4	51	[illegible]	[illegible]	[illegible]		[illegible]	5,578	-22.0	45	28	5,327	-31.7	
450	12	6,640	-15.7		28	6,627	-17.4		28	6,255	-31.5	48	25	6,658	-13.8		28	6,354	-26.7		28	6,068	-36.6	46
400	11	7,515	-22.1		28	7,490	-23.7		28	[illegible]	-36.9	49	25	7,533	-20.6		[illegible]	[illegible]	-32.6	48	[illegible]	6,871	-42.0	
350	9	8,494	-29.5		26	8,450	-31.3		[illegible]	[illegible]	-43.3		25	8,507	-28.0		28	[illegible]	-39.0		[illegible]	7,763	-47.4	
300	8	9,576	-38.3		26	9,522	-39.8		26	9,003	-50.4		25	9,593	-36.8		[illegible]	9,154	-45.9		[illegible]	8,769	-52.2	
250	7	10,805	-48.1		25	10,739	[illegible]		28	10,172	-56.7		25	10,828	-46.9		28	10,346	-53.2		27	[illegible]	-54.6	
200	7	12,242	-57.7		25	12,168	-57.9		26	[illegible]	-59.1		25	12,275	-55.6		28	11,765	-57.2		[illegible]	[illegible]	-52.5	
175	7	13,078	-61.4		25	13,006	-59.1		[illegible]	12,403	-56.6		25	13,118	-58.9		[illegible]	12,609	-56.2		[illegible]	12,223	-52.3	
150	6	14,040	-64.0		25	13,967	-61.6		[illegible]	13,381	-55.3		25	14,075	-63.6		26	13,592	-57.0		26	[illegible]	-51.9	
125	6	15,142	-68.7		25	15,082	-66.9		[illegible]	14,540	-55.6		22	[illegible]	-69.1		25	14,747	-59.0		25	14,397	-51.6	
100					22	16,412	-71.6		20	15,961	-57.7		16	16,486	-74.9		25	16,135	-62.1		[illegible]	[illegible]	[illegible]	
80					21	17,721	-73.3		18	17,358	-59.0		[illegible]	17,779	-75.6		20	17,493	-62.9		[illegible]	17,279	-53.7	
60					13	19,397	[illegible]		16	19,160	-59.1		6	19,445	-72.7		15	19,248	-63.1		12	[illegible]	[illegible]	
50					6	20,472	-69.0		14	20,298	-58.7		5	20,513	-67.7		14	20,365	-63.3		9	20,272	54.7	
40									10	21,656	-59.7		[illegible]	21,874	-61.5		[illegible]	[illegible]	-59.8		7	21,701	-56.4	
30																	10	23,530	-58.6					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

Note. All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 1200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 10 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor pressure over water. Upper air values of relative humidity at levels with temperatures less than 0° C, have formerly been computed and expressed on the basis of the vapor pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the values occurring below the operating range of the humidity element.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for October 1954

Standard pressure surface (mb)	DENVER, COLO. (835 MB.)				FT. WORTH, TEXAS (995 MB.)				OGDEN, UTAH (855 MB.)				RANTOUL, ILL. (991 MB.)				ROME, N. Y. (998 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,661	10.0	45	31	178	21.5	63	31	1,450	10.7	50	31	227	12.2	77	31	146	10.3	75
1,000--	31	120			31	131			31	119			31	151			31	136		
950 --	31	563			31	578	20.8	57	31	564			31	587	12.5	72	31	567	10.6	68
900----	31	1,025			31	1,043	18.2	57	31	1,024			31	1,036	9.9	69	31	1,014	7.9	68
850----	31	1,508			31	1,531	14.8	61	31	1,502	12.7	47	31	1,510	8.4	63	31	1,483	5.3	67
800 -	31	2,017	11.4	44	31	2,041	11.5	60	31	2,010	10.8	40	31	2,009	6.5	58	31	1,977	3.6	59
750----	31	2,558	8.5	46	31	2,584	9.1	48	31	2,547	7.4	40	31	2,543	3.9	54	31	2,503	.9	55
700-- -	31	3,121	5.4	47	31	3,148	6.0	45	31	3,109	3.7	41	31	3,095	1.1	52	31	3,050	- 1.8	53
650---	31	3,725	1.4	49	31	3,754	2.4	42	31	3,708	.0	42	31	3,693	- 2.2	48	30	3,644	- 4.4	46
600----	31	4,363	- 3.0	49	31	4,394	- 1.5	39	31	4,344	- 4.1	46	31	4,320	- 6.0	43	30	4,267	- 7.9	46
550----	31	5,044	- 7.7	49	31	5,084	- 5.6	34	31	5,024	- 8.5	46	31	4,997	- 9.7	40	29	4,937	-11.9	43
500 ---	31	5,780	-13.0	46	31	5,823	-10.8	35	31	5,757	-13.3	41	31	5,726	-14.4	39	29	5,659	-16.3	40
450---	31	6,582	-18.3	35	31	6,628	-16.4		30	6,551	-19.0	37	31	6,526	-19.6		29	6,448	-21.2	
400----	30	7,449	-24.6		31	7,500	-22.7		30	7,414	-25.5		31	7,384	-25.6		29	7,303	-27.1	
350----	30	8,406	-32.2		31	8,464	-29.9		30	8,367	-33.3		31	8,338	-32.5		29	8,252	-33.6	
300----	29	9,481	-40.3		31	9,543	-38.4		30	9,433	-41.3		29	9,409	-39.9		29	9,316	-41.1	
250-- -	28	10,701	-48.6		31	10,770	-47.6		30	10,648	-49.2		28	10,650	-48.2		29	10,532	-48.9	
200----	27	12,146	-55.7		29	12,216	-55.9		30	12,089	-56.2		26	12,092	-54.6		29	11,973	-55.4	
175----	26	12,999	-59.1		27	13,063	-60.1		30	12,934	-58.2		25	12,930	-57.3		29	12,818	-58.3	
150----	26	13,957	-62.5		25	14,021	-64.7		30	13,899	-61.1		22	13,918	-60.6		28	13,770	-60.6	
125-- -	24	15,075	-65.9		20	15,148	-69.2		29	15,026	-63.6		19	15,016	-63.0		26	14,892	-62.4	
100----	22	16,420	-66.7		9	16,436	-69.0		25	16,393	-64.5		12	16,331	-60.5		24	16,256	-62.5	
80-----	17	17,765	-64.7						19	17,756	-62.4		8	17,772	-60.4		18	17,604	-61.2	
60 ----	16	19,545	-61.3						17	19,533	-60.7		5	19,554	-59.5		16	19,387	-59.5	
50--- -	16	20,683	-59.0						17	20,668	-59.8		5	20,697	-58.4		15	20,541	-58.5	
40-----	15	22,093	-57.0						15	22,071	-58.1						13	21,954	-57.0	
30-----	14	23,915	-55.2						13	23,891	-55.6						9	23,745	-56.2	
20--- -									10	26,505	-52.3									

* November data for the above Air Force stations will be included in the March 1955 issue of this publication

Note: All observations scheduled at 0300, G.C.T "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			* Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	28	215	2.2	28	278	1.9	25	254	2.5	27	312	2.3	28	304	0.9	24	134	4.9
500	--	---	----	--	---	----	--		---	--	---	----		-	----	24	159	5.9
1,000	26	220	2.6	--	---	----	--	-	- -	25	316	3.2	28	305	1.5	16	182	5.4
1,500	24	244	4.1	--	---	----	25	264	7.9	20	317	5.7	28	306	3.4	13	199	4.1
2,000	23	254	6.4	27	281	2.6	24	277	8.3	19	311	8.1	28	292	5.3	11	266	3.7
2,500	21	256	9.9	26	282	4.7	23	286	9.8	17	301	9.9	27	290	6.9			
3,000	21	261	13.0	24	288	7.5	18	282	10.6	17	297	11.3	26	295	8.7			
4,000	20	263	17.2	24	280	12.4	15	293	12.1	14	292	13.2	26	293	10.8			
5,000	19	262	19.8	23	276	18.0	12	304	15.0	11	301	15.0	23	291	10.7			
6,000	17	266	22.0	22	271	22.2	10	330	17.8				23	288	13.1			
8,000				15	268	23.2							19	295	15.0			
10,000				11	280	24.8							14	300	19.1			
12,000													10	308	19.1			

Altitude (meters) m.s.l.	** Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)			* Ely, Nev. (1,910 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	27	239	1.5	26	327	0.3	28	184	1.6	26	212	2.6	28	266	3.4	27	264	0.1
500	26	250	3.1	26	218	1.9	27	209	[illegible]	26	214	2.9	--	---	- -	-	--	--
1,000	25	259	6.1	22	278	3.9	26	256	3.5	20	230	4.7		- - -	- - -	-	- - -	-
1,500	26	269	7.7	20	280	5.5	23	268	5.6	13	250	4.4	28	265	3.8	-		--
2,000	26	270	8.5	15	283	8.4	19	262	7.4	11	257	5.2	28	255	4.9	27	306	.6
2,500	26	271	10.9	13	294	11.4	18	269	10.6	11	251	7.8	27	263	7.8	27	299	2.1
3,000	26	275	13.4	13	298	12.4	17	274	13.6	11	263	12.1	27	260	11.2	27	302	4.8
4,000	25	274	16.0	10	295	12.4	14	280	15.2				26	260	15.7	24	295	8.8
5,000	24	270	19.8				11	272	15.4				23	261	18.6	24	297	13.2
6,000	23	269	24.3				10	261	16.2				20	260	19.7	21	307	17.9
8,000	22	275	30.3										17	264	22.6	15	301	17.9
10,000	15	280	36.7										12	287	[illegible]			
12,000	11	276	26.8															

Altitude (meters) m.s.l.	Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Little Rock, Ark. (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	28	318	2.2	25	266	1.6	26	270	1.3	27	259	1.4	27	77	2.2	23	210	0.7
500	--	---	----	25	245	1.3	26	261	2.4	-	- -	----	25	168	2.1	23	226	2.0
1,000	--	---	----	23	241	3.9	26	245	4.0	27	257	3.9	24	199	2.6	22	241	3.5
1,500	28	317	2.1	17	264	5.9	26	263	6.5	23	269	6.3	21	237	4.2	18	275	4.9
2,000	28	253	1.1	12	281	8.1	21	262	8.3	21	284	9.3	13	256	8.0	17	279	8.2
2,500	26	240	1.7	11	288	9.7	18	277	10.3	18	288	11.3	12	268	11.1	15	278	10.2
3,000	24	252	3.2	11	289	12.0	15	274	12.3	16	294	11.7	11	263	13.3	14	270	13.3
4,000	20	301	7.0	10	290	15.6	14	281	16.8	10	311	13.6				10	275	18.1
5,000	19	303	11.9				11	276	19.5									
6,000	18	298	14.1															
8,000	10	301	21.5															
10,000																		
12,000																		
14,000																		
16,000																		

Altitude (meters) m.s.l.	* Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			# Oakland, Calif. (8 m.)			Omaha, Nebr. (306 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	26	328	1.1	28	86	3.8	26	142	1.8	20	199	1.0	28	272	1.9	24	291	0.5
500	26	320	1.2	28	93	4.5	23	208	2.1	20	205	3.4	28	330	2.3	24	[illegible]	.6
1,000	26	265	1.0	26	87	2.3	19	264	4.1	18	231	3.4	28	323	2.5	18	252	4.2
1,500	26	228	2.2	22	7	.4	15	286	6.0	17	234	5.0	28	316	3.6	16	254	6.5
2,000	24	270	3.9	18	268	2.0	14	276	8.4	16	250	7.8	28	321	3.9	16	265	7.6
2,500	23	285	6.5	17	272	3.6	13	276	10.7	13	260	8.9	28	323	5.5	16	276	8.7
3,000	21	292	8.5	14	269	4.4	11	265	10.4	13	262	11.9	28	318	7.0	15	279	11.3
4,000	21	300	11.7							11	276	16.6	28	310	10.4	12	281	13.8
5,000	20	297	13.8										28	304	13.0	11	271	14.7
6,000	18	290	14.1										28	309	14.7	10	264	16.5
8,000	14	288	15.8										27	306	17.3			
10,000	12	271	16.9										26	306	19.0			
12,000	11	264	20.3										26	296	22.5			
14,000													26	288	21.0			
16,000													25	290	16.3			

Altitude (meters) m.s.l.	Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			St. Louis, Mo. (181 m.)			San Antonio, Tex. (240 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	28	263	0.9	25	3	2.1	24	235	0.7	26	231	1.1	27	130	1.6
500	28	259	1.5	--	---	----	24	250	.5	26	231	3.0	27	149	2.1
1,000	28	265	1.7	25	357	2.1	21	285	1.3	22	228	5.9	25	164	2.3
1,500	28	289	2.1	23	316	6.1	18	283	4.0	17	254	6.6	21	216	3.1
2,000	28	291	2.7	20	299	7.9	18	280	6.2	16	253	9.1	20	248	5.1
2,500	27	291	3.7	19	300	9.7	17	289	7.8	16	260	10.9	17	263	7.2
3,000	25	300	5.9	18	308	12.0	17	287	9.4	14	264	12.5	17	254	9.8
4,000	23	301	9.6	15	302	14.7	14	299	9.8	12	267	17.1	17	260	11.2
5,000	20	306	12.2	11	297	19.0	13	296	12.4	12	270	23.4	13	268	14.8
6,000	20	298	15.3				13	301	14.3						
8,000	15	286	20.0				12	298	20.1						
10,000	11	284	18.9												
12,000															
14,000															
16,000															

Altitude (meters) m.s.l.	San Diego, Calif. (13 m.)			** Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			% Washington, D. C. (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	27	280	3.4	28	245	0.9	22	237	2.2	28	276	1.6
500	27	306	2.6	28	194	1.0	--	---	----	28	252	4.5
1,000	25	22	2.5	28	238	3.1	22	241	3.3	28	257	6.6
1,500	24	2	2.0	28	255	5.7	22	263	4.5	28	264	8.6
2,000	24	338	3.2	28	258	7.4	19	280	5.0	28	273	11.7
2,500	22	324	4.1	28	261	9.1	17	295	5.4	28	272	13.6
3,000	22	310	6.6	28	258	10.9	16	300	7.2	28	272	15.8
4,000	19	302	7.1	28	265	15.1	12	306	9.4	28	275	19.0
5,000	18	303	8.6	27	262	16.7				28	272	22.9
6,000	17	298	11.3	27	264	18.2				28	271	28.4
8,000	13	296	12.4	24	265	27.4				27	267	36.0
10,000				17	270	36.2				26	268	42.5
12,000										24	269	43.2
14,000										22	270	38.5
16,000										20	272	30.6

Rawin Data (Cont'd.)

18,000 m., 22 obs., 289 dir., 12.9 speed
20,000 m., 20 obs., 290 dir., 7.2 speed
22,000 m., 19 obs., 302 dir., 4.9 speed
24,000 m., 15 obs., 292 dir., 5.6 speed

% Rawin Data (Cont'd.)

18,000 m., 19 obs., 267 dir., 22.3 speed
20,000 m., 18 obs., 275 dir., 13.9 speed
22,000 m., 13 obs., 263 dir., 17.7 speed

* Rawin Data, from 7th-28th, inclusive

** Rawin Data

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Altitude (meters) m s l	Albuquerque, N. Mex. ([illegible] m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Barrow, Alaska (8 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	28	346	1.8	28	10	1.6	26	148	2.1	28	338	0.6
500	--	--		28	341	2.9	26	188	2.1	27	341	.8
1,000	--		---	28	[illegible]	1.3	25	241	3.2	27	302	1.5
1,500	--	--	--	27	17	.9	25	246	4.4	27	309	2.8
2,000	28	310	1.6	27	130	.6	25	264	5.8	27	304	3.9
2,500	28	287	6.0	27	215	2.6	24	279	7.0	27	303	4.1
3,000	28	274	8.0	27	228	4.4	22	291	8.5	27	301	5.1
4,000	27	283	10.6	27	233	7.5	19	298	11.0	27	297	6.3
5,000	27	281	13.8	24	235	9.4	15	316	13.7	27	287	8.2
6,000	24	280	16.9	22	230	10.4	10	308	11.7	28	274	9.9
8,000	15	287	13.4	21	230	16.3				27	277	10.9
10,000	13	287	19.5	17	242	14.4				25	276	9.7
12,000				17	246	16.0				24	272	9.1
14,000				15	257	17.1				22	266	8.6
16,000				14	248	15.3				20	262	9.0
18,000				13	254	14.6				18	257	10.3
20,000				10	262	9.9						

Altitude (meters) m s l	Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	28	55	1.2	28	99	2.3	27	232	0.8	27	83	2.1
500	--	--	---	27	145	5.5	25	248	4.2	27	135	2.5
1,000	28	322	2.3	27	157	5.0	25	256	7.9	26	197	2.9
1,500	28	311	4.0	27	176	4.7	25	269	8.9	26	222	3.2
2,000	28	306	5.1	27	199	3.9	26	270	10.3	25	236	4.5
2,500	28	299	6.3	27	224	4.7	25	276	11.6	25	244	6.3
3,000	26	293	8.5	28	233	6.8	25	273	12.7	25	251	8.4
4,000	26	292	11.1	28	237	10.6	24	274	16.0	25	255	11.8
5,000	25	293	11.8	27	251	12.7	24	273	19.3	23	254	12.7
6,000	21	295	11.0	26	251	15.7	21	276	23.5	22	256	16.4
8,000	17	273	11.5	25	247	19.9	23	271	29.6	19	265	24.1
10,000	16	260	13.6	16	255	20.7	19	273	32.0	14	262	26.5
12,000	15	261	14.4				14	268	30.7	11	262	32.8
14,000	15	268	12.8									
16,000	13	269	14.1									
18,000	12	268	11.2									
20,000												

Altitude (meters) m s l	Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)			Fairbanks, Alaska (135 m.)		
	No. of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	28	307	1.7	28	132	1.0	28	179	1.2	27	286	0.1
500	28	315	2.4	28	200	3.2	28	202	2.7	27	138	.4
1,000	28	316	2.3	26	220	4.0	28	230	6.0	27	170	.5
1,500	28	297	3.1	26	227	4.9	28	250	7.3	27	245	1.8
2,000	27	288	5.3	26	240	6.2	28	260	8.7	27	250	3.5
2,500	27	283	6.8	26	262	8.6	28	266	10.8	27	245	5.5
3,000	26	277	9.1	26	268	11.2	28	267	12.8	27	248	6.8
4,000	25	272	12.2	23	264	14.3	27	263	16.1	25	251	7.9
5,000	24	274	14.7	20	265	16.8	27	261	20.1	24	251	12.0
6,000	20	282	14.4	18	274	18.7	27	260	24.5	18	250	11.2
8,000	14	268	16.7	13	270	22.9	28	258	31.6	15	252	14.6
10,000	12	280	19.3	11	284	31.1	26	258	42.7	11	259	10.5
12,000	10	267	20.5				26	262	43.1			
14,000							23	258	36.0			
16,000							17	262	28.1			
18,000							13	261	21.7			
20,000												

Altitude (meters) m s l	Ft. Huachuca,* Ariz. (1,428 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	16	240	1.6	28	333	1.7	27	237	0.3	27	325	2.5
500	--	---	---	--	---	---	27	203	2.3	24	342	2.8
1,000	--	---	---	--	---	---	27	229	4.6	24	290	4.9
1,500	16	241	1.9	28	330	1.6	27	245	6.3	24	290	6.5
2,000	16	227	3.5	28	290	1.5	27	256	8.7	24	279	8.0
2,500	16	238	4.2	28	229	2.1	26	259	9.5	24	276	10.7
3,000	16	243	4.6	28	254	3.6	26	257	11.4	24	270	12.7
4,000	15	262	7.9	28	282	8.7	26	265	15.6	24	271	17.0
5,000	15	260	12.0	27	293	11.1	25	269	18.5	21	273	19.9
6,000	15	262	18.0	25	297	13.6	21	267	20.0	18	271	21.7
8,000	15	255	22.1	20	309	19.5	17	268	21.9	11	287	24.1
10,000	15	248	28.3	14	293	23.2	12	275	24.8			
12,000	12	235	30.9									
14,000												
16,000												
18,000												

Altitude (meters) m s l	Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	27	2	0.5	28	157	1.3	28	192	0.4	28	71	3.3
500	27	333	.3	28	189	3.6	27	239	.3	28	75	6.0
1,000	27	327	1.2	26	231	4.1	27	292	1.4	28	83	5.2
1,500	27	269	3.6	25	256	6.1	27	274	2.2	28	92	3.3
2,000	27	287	4.5	24	263	8.7	28	286	3.9	28	109	1.5
2,500	27	285	6.2	23	267	11.7	28	309	5.5	28	232	1.5
3,000	28	279	7.8	23	267	14.5	28	313	8.1	28	254	3.2
4,000	28	278	10.4	20	257	17.7	28	313	11.5	28	265	6.0
5,000	28	273	13.5	19	251	22.4	27	307	14.6	27	271	8.3
6,000	28	273	14.9	15	261	24.8	23	311	17.5	26	265	12.1
8,000	27	275	20.6				15	296	17.5	26	261	16.5
10,000	27	271	26.0				10	274	17.4	26	271	23.0
12,000	26	274	20.7							19	279	25.4
14,000	24	276	19.5							16	277	24.4
16,000	16	270	17.1							15	267	18.5
18,000	12	275	15.1							11	280	8.6

Altitude (meters) m s l	Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	28	143	1.3	26	311	2.9	26	9	0.3	27	32	1.5
500	--	---	---	26	301	5.3	25	220	2.7	27	58	2.3
1,000	28	169	2.7	26	295	6.9	25	240	5.5	26	27	1.9
1,500	28	224	4.5	26	284	8.5	26	245	7.8	26	317	2.6
2,000	28	250	7.7	26	276	11.3	24	251	9.0	26	292	4.3
2,500	28	253	9.5	25	276	12.6	24	260	12.0	25	272	5.2
3,000	28	251	12.3	23	276	13.7	22	269	13.5	25	277	6.2
4,000	26	256	14.9	23	276	15.6	21	273	17.6	22	258	7.9
5,000	23	264	15.2	18	273	15.1	17	262	21.2	21	267	13.2
6,000	20	262	18.6	15	267	19.8	12	260	27.3	19	253	13.4
8,000	14	260	19.2							15	247	13.9
10,000										13	247	16.7
12,000										11	258	18.8
14,000												
16,000												
18,000												

Altitude (meters) m s l	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	28	305	1.2	28	139	1.0	28	360	2.2	28	338	0.4
500	28	330	2.5	28	163	2.1	--	---	---	28	18	.8
1,000	28	335	2.8	27	211	4.8	28	357	2.3	28	211	.6
1,500	28	329	2.9	24	245	6.7	28	305	6.1	28	254	3.5
2,000	28	331	3.6	24	264	9.0	28	304	8.0	28	277	5.1
2,500	28	329	5.2	26	266	11.3	28	303	9.6	28	279	6.6
3,000	28	328	7.0	26	265	12.6	28	305	10.5	28	276	8.0
4,000	28	321	9.8	25	268	15.4	27	297	10.6	26	273	11.2
5,000	28	310	12.9	24	261	18.7	25	284	11.2	26	272	12.7
6,000	27	319	14.4	23	261	23.0	22	268	13.1	22	278	13.3
8,000	27	308	19.8	14	257	28.6	17	265	12.0	18	273	17.7
10,000	24	309	22.1				14	233	16.0	15	267	22.7
12,000	22	288	22.9				12	248	16.6	13	269	20.7
14,000	21	290	21.0				11	247	12.7	12	264	21.1
16,000	17	282	15.7							13	262	16.4
18,000										12	261	12.6
20,000										10	265	8.3
22,000												

Altitude (meters) m s l	St. Paul, Is. Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	27	62	5.0	28	98	2.0	28	62	2.8	28	298	0.7
500	23	103	5.4	28	109	4.7	28	66	6.4	28	356	3.1
1,000	22	130	3.1	28	151	3.7	28	74	6.2	28	356	3.1
1,500	22	166	2.7	28	203	4.0	27	73	5.7	28	357	3.5
2,000	23	193	3.6	28	238	6.7	27	61	4.8	28	345	4.7
2,500	26	209	4.1	28	249	9.5	27	46	3.7	28	330	7.2
3,000	27	214	5.4	28	255	11.6	27	35	3.2	27	318	8.5
4,000	27	220	6.1	28	252	15.4	26	19	1.4	25	312	9.9
5,000	26	230	6.9	27	255	16.6	26	357	1.1	24	305	11.2
6,000	25	221	11.3	27	256	20.3	26	310	2.5	22	299	14.0
8,000	23	226	13.3	18	261	22.2	26	290	5.7	15	297	13.8
10,000	18	215	16.0	10	263	17.7	26	279	12.3	14	274	16.6
12,000	15	215	15.6				23	267	16.6	14	279	21.0
14,000	14	225	15.5				23	280	16.0	12	280	20.1
16,000	14	221	16.4				22	291	6.9	13	288	16.0
18,000	13	223	12.3				21	36	3.4	11	294	13.5
20,000	11	221	14.0				16	338	1.7	10	298	7.8
22,000							12	288	4.8			

Altitude (meters) m s l	Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is., Wash. (31 m.)			Washington, D. C. (88 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	28	67	1.0	28	207	1.7	28	224	1.6	28	243	0.8
500	28	171	1.2	--	---	---	27	254	2.4	27	253	5.3
1,000	28	240	2.8	28	229	4.0	27	260	4.7	27	255	6.9
1,500	28	257	4.5	28	254	5.3	27	261	6.3	27	273	9.2
2,000	28	266	6.0	27	273	5.5	28	276	7.5	28	275	10.5
2,500	28	263	7.4	26	285	7.0	28	287	9.2	28	275	11.8
3,000	28	268	8.8	26	293	8.0	27	292	10.5	28	276	13.2
4,000	28	270	12.2	26	295	10.8	26	295	14.8	28	277	17.2
5,000	28	270	16.1	26	301	14.0	25	297	18.8	28	271	22.7
6,000	27	270	21.0	26	305	18.4	24	295	22.5	28	267	28.0
8,000	19	263	31.8	26	309	24.9	19	297	26.5	27	264	35.7
10,000				22	315	26.5	17	296	30.9	24	268	40.8
12,000				22	304	22.2	16	303	23.7	24	273	45.7
14,000				12	303	15.7	15	299	17.5	22	276	37.9
16,000							14	307	14.5	22	274	33.6
18,000							12	301	12.2	17	265	20.5
20,000							10	317	11.7	13	263	19.3
22,000												

Altitude (meters) m s l	Yakutat, Alaska (12 m.)		
	No of observations	Direction	Speed
Surface	25	130	2.5
500	25	139	3.7
1,000	25	164	2.7
1,500	25	195	2.2
2,000	25	215	2.0
2,500	25	237	3.2
3,000	25	256	4.1
4,000	25	268	7.7
5,000	23	287	9.9
6,000	23	282	13.9
8,000	18	293	14.8
10,000	15	268	17.2
12,000	14	276	14.3
14,000	14	273	15.1
16,000	12	282	14.9
18,000	10	282	14.4

* Army Signal Corps, AEPG

These free air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speed. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for October 1954

Altitude (meters) m.s.l.	Denver, Colo. (1,601 m.)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul, Ill. (227 m.)			Rome, N. Y. (116 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	148	1.6	30	136	0.8	31	48	2.4	31	215	1.5	31	245	0.5
500	--	---	----	30	135	4.3	--	---	---	29	223	4.4	31	266	3.7
1,000		--	----	30	172	5.0	-	--	--	28	255	6.0	30	264	7.2
1,500	--	--	----	30	208	4.6	27	47	2.1	28	270	7.5	30	269	8.3
2,000	27	162	1.2	30	226	4.4	27	236	.9	28	276	8.[illegible]	30	267	8.8
2,500	27	262	2.5	31	244	4.1	27	239	4.0	29	276	8.3	30	261	9.7
3,000	27	277	4.0	30	260	4.6	27	247	5.4	29	273	9.5	30	269	11.2
4,000	29	279	7.7	31	279	6.5	29	256	6.7	30	283	10.2	29	271	13.9
5,000	30	291	8.5	31	282	8.1	30	260	10.2	30	279	12.3	29	273	15.5
6,000	31	289	10.7	31	280	7.3	31	272	10.8	29	275	13.5	28	267	19.5
8,000	30	283	12.3	30	285	9.3	30	272	14.2	29	283	17.0	28	269	20.2
10,000	28	286	14.2	30	287	13.4	28	262	13.7	26	282	17.3	27	269	21.6
12,000	27	282	16.2	27	285	14.9	25	262	17.3	26	276	18.6	27	275	2[illegible]
14,000	26	275	16.4	25	286	13.2	23	273	15.7	21	282	18.1	25	273	23.7
16,000	23	277	12.0	13	297	6.2	17	286	10.8	15	285	11.7	21	275	16.0
18,000	16	284	6.0				11	278	5.9				16	281	11.5
20,000	16	306	2.7				11	309	5.4				14	280	9.0
22,000	15	276	4.1										12	280	7.1
24,000	13	263	2.0												

* November data for the above Air Force stations will be included in the March 1955 issue of this publication.

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. FEBRUARY 1955

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
Feb.**									
1	0.54	0.66	0.79	----	----	1.24	1.10	1.00	0.91
2	.92	1.05	1.14	1.25	----	1.18	.80	.63	.36
3	----	.92	1.03	1.22	----	----	----	----	----
4	.83	.92	1.05	1.13	----	1.18	1.01	.85	.75
5	.82	.97	1.08	----	----	----	----	----	----
6	----	----	----	----	Cloudy	----	----	----	----
7	.89	.97	1.04	----	----	1.24	----	----	----
8	.90	1.04	1.11	1.22	----	1.27	1.03	.88	.81
9	.99	1.08	1.17	1.26	----	1.27	.98	.90	.77
10	.87	.94	1.11	1.17	----	1.26	1.15	1.06	.95
11	.94	1.03	1.12	1.28	----	1.26	1.11	1.05	.96
12	----	----	----	----	Cloudy	----	----	----	----
13	83	.98	1.08	1.25	----	1.18	----	----	.89
14	.85	.94	1.06	1.20	----	1.29	1.14	1.04	.94
15	---	----	----	----	----	1.21	1.09	.98	.89
16	.89	1.00	1.12	1.26	----	----	----	----	----
17	----	----	----	----	Cloudy	----	----	----	----
18	----	----	----	----	Cloudy	----	----	----	----
19	----	----	----	----	Cloudy	----	----	----	----
20	.93	1.06	1.15	1.31	----	----	1.12	1.02	----
21	----	.99	1.09	1.27	----	----	----	----	.90
22	.89	1.01	1.09	----	----	1.30	----	----	.90
23	----	----	----	----	----	1.19	1.04	97	.85
24	1.03	1.11	1.22	1.36	----	----	----	----	----
25	----	----	----	----	Cloudy	----	----	----	----
26	----	----	----	----	Cloudy	----	----	----	----
27	.91	1.02	1.11	1.27	----	----	----	----	----
28	.80	1.03	1.16	1.30	----	1.18	1.01	.85	.78
Averages	.87	.99	1.09	1.25	----	1.23	1.05	.94	.83

WASHINGTON, D.C. (WBCO)

Date	Air mass								
	4.96	3.97	2.98	1.99	*0.99	1.99	2.98	3.97	4.96
Feb.									
3	----	----	----	1.31	----	1.28	----	----	----
10	0.69	0.81	0.91	----	----	----	----	----	----
Averages	.69	.81	.91	1.31	----	1.28	----	----	----

BLUE HILL, MASS.

Date	Air mass								
	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
Feb.									
4	1.02	1.13	1.28	1.44	----	1.44	1.25	1.12	1.02
5	1.04	1.13	1.25	----	----	----	----	----	----
7	1.00	1.12	1.24	----	----	1.20	.98	.84	.76
8	91	1.02	1.10	1.21	----	----	----	----	----
9	----	----	1.00	1.23	----	1.19	1.00	.83	.69%
10	----	----	----	----	----	----	.93	.79	.69%
12	----	.95	1.08	1.25	----	1.25	1.00	.88	.73
19	.90	1.00	1.11	1.27	----	1.24	1.10	.97	.86
20	.86	----	----	----	----	1.20	1.11	----	----
24	----	----	1.07	1.26	----	----	----	----	----
25	.82	.95	1.08	1.25	----	1.20	1.00	.86	.77
Averages	.94	1.04	1.13	1.27	----	1.25	1.05	.90	.79

TABLE MOUNTAIN, CALIF.

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	5.0	4.0	3.0	2.0	*0.75	2.0	3.0	4.0	5.0
Feb.									
1	----	----	----	1.56	----	----	----	----	----
7	----	----	----	1.51	----	----	----	----	----
8	1.21	1.30	1.42	1.54	----	----	----	----	----
12	----	----	----	1.47	----	----	----	----	----
13	----	----	----	1.46	----	----	----	----	----
15	----	----	----	1.45	----	----	----	----	----
19	----	----	----	1.51	----	----	----	----	----
20	----	----	----	1.45	----	----	----	----	----
21	----	----	----	1.49	----	----	----	----	----
22	----	----	----	1.48	----	----	----	----	----
28	----	----	----	1.54	----	----	----	----	----
Averages	1.21	1.30	1.42	1.50	----	----	----	----	----
Departures	.04	.04	.06	-.01	----	----	----	----	----

LINCOLN, NEBR.

Date	Air mass								
	4.77	3.81	2.86	1.91	*0.95	1.91	2.86	3.81	4.77
Feb.									
5	0.77	0.92	1.11	1.29	----	1.29	1.11	0.98	0.87
8	.83	.96	1.09	----	----	----	----	----	----
11	.83	.96	1.09	----	----	----	----	----	----
12	.92	1.02	1.13	----	----	----	----	----	----
21	----	.94	1.11	1.31	1.42	1.29	1.12	.99	.88
24	.83	.98	1.11	1.29	1.40	1.24	1.06	.94	.83
Averages	.84	.96	1.11	1.30	1.41	1.27	1.10	.97	.86

MADISON, WIS.

Date	Air mass								
	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
Feb.									
3	0.96	1.06	1.18	1.33	----	1.32	1.18	1.05	0.69
6	----	----	1.05	1.16	----	1.20	1.00	.81	.69
7	.64	.79	.93	1.18	----	1.14	.87	.64	----
11	----	----	----	1.20	----	----	----	----	----
12	.95	1.03	1.15	1.28	----	1.40	1.25	1.11	1.02
14	.69	.82	.98	1.18	----	1.19	1.03	.86	.79
17	----	----	----	----	----	1.23	----	----	----
21	----	----	----	1.29	----	1.28	1.13	1.00	.87
22	.98	1.09	1.21	1.39	----	1.38	1.17	1.05	.95
24	----	----	----	----	----	1.23	.95	.87	.71
Averages	.85	.96	1.08	1.25	----	1.26	1.07	.92	.82

Note: Departures are omitted, except for Table Mountain, Calif.
** Continual smoke and dust throughout the month.
% Smoke
* Extrapolated

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of Tables 30 and 31 and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the Monthly Weather Review, vol. 72, No. 1, January 1944, p. 43. A list of pyrheliometric stations is given on page 45 of that issue. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys	85	40	52	52	50	50	16	49	60	62	65	74	83	12	38	56	58	56	66	46	14	71	62	53
Date	26	27	28	1	2	3	4																	
Langleys	73	16	57	20	67	73	54	51																

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys	237	33	189	222	205	175	10	153	237	206	243	77	171	6	32	138	242	244	108	50	12	255	256	167
Date	26	27	28	1	2	3	4																	
Langleys	207	11	56	8	267	301	48	128																

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys	416	22	481	456	510	443	8	334	538	533	426	76	241	7	30	265	526	507	325	74	12	242	503	313
Date	26	27	28	1	2	3	4																	
Langleys	243	6	92	8	484	438	35	187																

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys	164	38	224	194	222	216	16	154	244	280	136	84	128	11	60	135	269	262	158	61	25	87	272	162
Date	26	27	28	1	2	3	4																	
Langleys	96	17	119	32	251	220	50	112																

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys	62	62	68	71	53	67	21	58	75	52	100	118	126	11	63	78	90	67	114	102	18	119	52	80
Date	26	27	28	1	2	3	4																	
Langleys	138	21	116	20	87	139	69	84																

Note: Langley is the unit used to denote one gram calorie per square centimeter

NET RADIATION

Table 32.-- Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month. February 1955

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Avg.
Langleys	91	*128	37	87	118	* 0	153	87	100	117	*-66	* 54	*52	*154	142	141	*-20	138	127	143	138	120	* -5	*-34	213	176	*45	106	13[illegible]

* Estimated values owing to occurrence of rain during period. While rain is falling radiation is assumed to be zero.

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Raleigh State College. The instrument with which they were measured has not been checked by the Weather Bureau.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys

	Aklavik, MacKenzie	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Columbia, Mo.	Davis, Calif.	Edmonton, Alberta	** E. Lansing, Mich.	E. Wareham, Mass.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Ft. Huachuca, Ariz. Army S.C., AEPG	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Lake Charles, La.	Lander, Wyo.	Lemont, Ill.	Las Vegas, Nev.	Lincoln, Neb.
1955																																							
Feb. 5-----	12	388	63	216	---	126	7	85	153	252	202	241	95	682	278	(264)	244	232	93	53	283	484	394	32	448	101	335	281	384	99	223	411	(35)	404	47	368	---	416	---
Feb. 6-----	30	244	106	160	---	21	20	111	195	73	187	67	311	692	150	112	301	305	111	152	107	483	416	35	431	400	336	202	401	129	26	83	(55)	458	157	358	187	428	310
Feb. 7-----	39	449	43	245	---	300	10	123	267	267	227	247	200	689	142	243	295	301	172	226	290	482	400	72	475	(426)	350	32	330	132	285	154	277	449	466	292	290	421	279
Feb. 8-----	31	448	116	473	139	425	36	111	131	236	82	194	471	687	309	188	327	290	170	168	249	485	(382)	94	*	(440)	347	202	390	234	184	78	174	452	470	249	110	427	286
Feb. 9-----	35	460	51	395	288	414	43	---	277	287	341	222	471	696	319	414	349	308	205	253	275	493	361	48	484	437	(326)	308	322	---	379	445	329	432	490	152	161	437	69
Feb. 10-----	49	481	25	206	245	270	39	93	334	251	336	267	398	693	97	297	209	317	162	47	291	446	430	36	481	235	333	286	416	316	273	184	27	---	361	386	85	453	312
Feb. 11-----	20	475	25	399	179	384	34	126	301	27	298	43	561	704	63	175	413	233	181	332	52	501	408	33	479	484	281	368	486	234	54	100	351	---	515	369	353	457	253
Averages------	31	421	61	299	213	277	27	108	237	199	239	183	358	692	194	(242)	305	284	156	176	221	482	(399)	50	466	(360)	(330)	240	390	191	203	208	(178)	439	358	311	198	434	251
Feb. 12-----	29	445	16	525	---	471	--	155	232	316	176	292	435	707	216	512	419	323	211	292	322	487	392	41	397	472	365	478	266	149	385	470	391	---	492	304	376	416	308
Feb. 13-----	32	476	68	509	116	456	31	77	324	319	321	326	252	651	215	494	203	304	203	328	340	499	415	67	481	344	330	467	420	137	407	501	348	---	489	373	289	448	260
Feb. 14-----	65	472	58	473	137	109	48	153	318	277	300	259	191	690	338	346	389	157	207	138	306	491	313	77	486	471	159	362	385	149	306	492	119	339	371	367	278	376	342
Feb. 15-----	36	471	50	437	---	---	38	66	306	122	314	64	504	683	169	---	229	236	---	311	124	423	419	86	444	296	340	332	321	241	397	483	317	427	405	266	265	438	273
Feb. 16-----	80	468	184	468	---	---	45	120	332	193	83	231	471	691	288	367	61	33	131	202	222	495	212	51	449	446	32	430	113	274	365	437	187	94	299	389	53	207	171
Feb. 17-----	48	84	181	411	---	344	50	103	104	18	348	15	352	609	133	257	371	266	140	387	33	315	264	40	*	408	168	400	93	111	244	329	350	421	344	305	290	364	279
Feb. 18-----	52	269	36	476	342	416	56	103	154	76	382	80	359	703	135	449	74	325	(177)	270	84	348	293	51	493	40	409	341	227	375	399	516	221	436	199	249	144	451	12
Averages------	49	384	85	471	---	359	45	111	253	189	275	181	366	676	213	404	249	235	(176)	275	204	437	330	59	458	354	257	401	303	205	358	461	276	343	371	322	242	386	235
Feb. 19-----	85	389	79	410	---	312	90	113	171	335	381	330	279	685	184	463	64	364	---	126	354	509	387	54	540	77	397	398	461	221	402	510	263	508	247	382	1	482	96
Feb. 20-----	89	517	41	345	338	335	96	95	95	325	339	344	88	708	244	437	439	380	107	104	320	554	474	146	530	440	402	388	482	309	401	463	25	511	79	418	49	299	257
Feb. 21-----	65	504	157	478	80	248	99	77	357	264	278	219	160	687	220	250	405	377	124	360	305	547	444	119	512	269	406	359	478	291	286	443	243	509	63	418	370	481	388
Feb. 22-----	101	522	151	484	271	105	110	181	343	121	304	121	255	689	78	228	447	360	(238)	315	116	552	318	86	536	512	407	280	350	235	152	272	372	521	254	286	406	468	339
Feb. 23-----	85	366	92	353	187	416	109	154	308	25	269	40	176	680	60	238	409	382	313	363	36	539	503	133	564	396	404	387	459	387	206	288	367	531	412	457	284	492	94
Feb. 24-----	115	553	230	377	228	71	41	115	342	232	67	227	94	661	223	---	314	368	---	240	267	466	477	76	464	(383)	417	408	507	205	40	105	360	532	473	456	120	451	399
Feb. 25-----	104	285	274	506	125	432	50	68	254	362	271	363	188	608	296	427	416	301	298	376	363	451	458	76	349	182	332	267	341	376	440	255	298	512	---	368	315	418	301
Averages------	92	448	146	422	205	274	85	115	267	238	273	235	177	674	187	341	356	362	(204)	269	252	517	437	98	499	(323)	395	355	440	289	275	334	275	518	255	398	221	442	268
Feb. 26-----	48	347	307	443	135	465	(45)	184	345	226	148	249	517	667	350	453	128	43	299	85	322	508	299	76	510	138	154	320	277	277	320	489	77	533	397	413	55	501	43
Feb. 27-----	53	511	78	475	---	269	71	253	400	31	274	35	391	---	160	312	82	339	332	99	45	524	229	128	550	71	289	361	451	404	177	221	260	369	425	---	62	428	127
Feb. 28-----	96	510	189	501	114	198	71	245	343	130	124	136	(562)	638	189	354	93	415	220	59	107	486	507	158	423	213	458	426	430	328	203	479	141	547	434	---	41	512	87
Mar. 1-----	145	554	195	543	106	189	114	125	363	27	86	29	572	606	82	304	405	411	---	91	33	559	505	159	---	358	447	468	499	273	229	246	138	568	419	452	321	524	423
Mar. 2-----	92	538	286	547	325	468	96	150	195	367	175	411	---	568	324	360	361	293	---	424	391	408	503	175	---	372	442	438	453	424	492	559	438	546	353	525	394	521	381
Mar. 3-----	138	561	336	493	288	315	118	119	362	346	235	387	519	---	441	225	373	370	---	299	354	568	505	102	---	413	452	432	514	363	177	438	253	---	404	291	203	498	80
Mar. 4-----	154	513	126	450	---	276	86	92	239	78	449	66	411	569	250	---	38	399	---	68	67	575	426	53	---	498	430	386	486	421	347	411	106	540	375	---	79	507	54
Averages------	104	505	217	493	194	312	(86)	167	321	172	213	188	(495)	610	257	335	226	324	276	161	188	518	425	121	---	295	382	404	444	356	278	406	202	517	401	420	165	499	170

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.
Note.-- Departures are being omitted until further notice.

** A study of available information about instrumental equipment and radiation indicate that data published prior to November 5, 1954, are systematically low. This condition has been corrected in data published in CDNS for that station beginning with November

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued

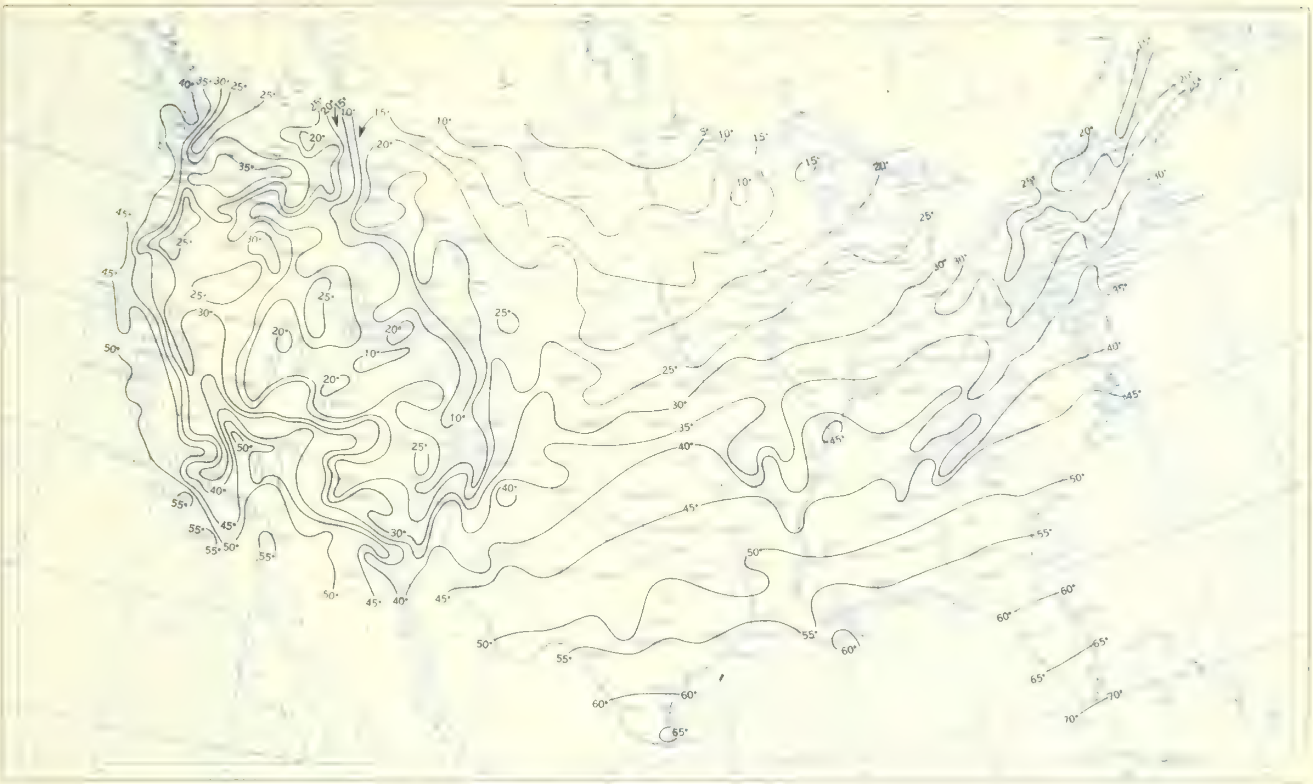
FEBRUARY 1955

	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Ore.	Miami, Fla.	Midland, Texas	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Prosser 4 NE. Wash.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Toronto, Ontario	Upton, N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
1955																																						
Feb. 5-----	34	353	357	121	76	158	208	329	37	287	187	77	310	165	424	257	254	301	235	384	226	47	(395)	33	278	180	265	101	299	138	341	458	404	70	279	536	230	231
Feb. 6-----	128	392	373	283	53	141	470	321	43	108	70	30	272	148	452	96	153	300	159	443	279	354	398	214	116	71	67	40	159	18	282	523	397	136	149	494	34	124
Feb. 7-----	365	406	389	270	68	---	425	439	281	317	336	77	430	286	460	273	177	243	165	431	293	411	414	287	349	126	300	20	179	111	381	522	208	262	326	495	---	164
Feb. 8-----	375	401	391	157	149	54	355	433	237	334	272	387	406	320	458	322	179	285	228	450	292	469	422	137	340	290	318	147	308	185	382	235	262	150	346	532	---	159
Feb. 9-----	384	---	368	85	17	---	---	442	389	321	239	412	398	151	468	310	237	228	231	434	238	461	411	141	309	194	315	216	329	244	380	535	439	188	316	491	---	260
Feb. 10-----	67	404	397	170	37	343	354	412	84	315	291	233	369	62	477	241	296	361	267	445	319	331	416	163	354	228	308	238	286	287	293	550	348	(147)	338	536	---	283
Feb. 11-----	424	387	377	299	29	139	373	471	353	40	53	356	442	130	492	53	201	226	181	436	332	513	330	269	30	18	55	184	284	30	412	483	161	232	46	521	---	283
Averages------	254	390	379	198	61	167	364	407	203	246	207	225	375	180	462	222	214	278	209	432	283	369	(398)	178	254	158	233	135	263	145	353	472	317	(173)	257	515	132	215
Feb. 12-----	420	416	398	332	46	322	586	477	386	343	316	430	404	263	449	324	233	293	190	450	334	499	427	294	275	238	324	37	282	247	374	374	539	307	272	539	---	273
Feb. 13-----	239	392	398	227	---	312	332	445	405	371	402	409	399	357	485	317	252	347	226	448	---	319	410	203	425	338	365	125	180	319	377	468	515	278	387	550	---	292
Feb. 14-----	414	171	167	(329)	36	207	289	464	201	286	253	58	508	165	421	338	247	331	196	284	(334)	375	185	192	319	240	316	77	246	140	393	425	418	86	329	534	---	221
Feb. 15-----	309	365	351	213	114	286	505	297	401	111	183	437	249	201	481	101	298	275	283	410	206	244	392	155	217	155	222	113	249	212	284	366	502	178	185	559	---	274
Feb. 16-----	146	111	105	250	154	81	427	457	46	326	212	91	425	163	409	108	166	353	160	107	344	244	(40)	251	341	211	266	99	261	83	412	219	434	19	324	549	---	143
Feb. 17-----	401	160	120	351	40	256	236	362	228	30	205	347	374	102	98	42	226	127	185	173	(272)	425	222	361	71	91	87	213	365	193	370	347	240	(275)	78	(506)	132	153
Feb. 18-----	135	467	446	161	44	404	463	92	310	117	352	398	72	244	441	136	353	99	315	464	50	168	489	297	379	149	341	283	331	312	34	---	464	307	368	561	385	241
Averages------	295	297	284	(266)	72	267	405	370	282	226	275	310	347	214	398	195	254	261	222	334	(257)	325	(309)	251	290	203	274	135	273	215	320	366	445	(196)	278	(543)	258	228
Feb. 19-----	76	464	442	41	41	378	468	482	212	382	374	216	255	343	529	287	302	205	246	510	124	151	487	72	421	329	348	171	372	340	145	---	331	274	392	553	349	244
Feb. 20-----	53	455	437	212	30	(385)	476	504	84	383	296	334	506	195	525	237	220	283	192	510	(250)	114	487	46	414	332	323	262	194	311	457	---	488	276	402	307	328	63
Feb. 21-----	60	464	430	363	103	390	296	489	40	312	50	76	398	62	524	335	256	236	231	404	(361)	---	473	221	77	130	192	203	218	19	354	---	440	76	83	545	246	322
Feb. 22-----	315	462	443	393	45	283	254	498	75	110	50	34	472	102	535	148	331	362	310	439	395	485	481	361	117	50	105	126	385	57	459	---	353	123	126	582	71	348
Feb. 23-----	424	477	439	254	205	375	313	419	457	46	106	424	446	165	540	31	218	377	175	498	(340)	362	485	271	64	80	146	94	315	244	424	---	487	257	81	---	227	353
Feb. 24-----	421	351	347	344	131	127	426	327	421	285	186	254	473	378	501	338	270	290	190	423	416	347	490	198	239	259	167	65	272	248	456	---	299	209	248	512	109	333
Feb. 25-----	370	452	434	380	197	294	482	327	461	410	402	483	377	396	385	384	154	383	132	491	275	118	239	243	459	290	390	115	177	292	343	---	477	351	448	478	409	278
Averages------	245	446	425	284	107	(319)	388	435	250	275	209	260	418	234	506	251	250	305	211	468	(309)	263	449	202	256	210	239	148	276	225	377	---	411	224	254	496	248	277
Feb. 26-----	152	386	(264)	89	50	113	337	422	---	306	238	144	359	260	482	249	183	231	143	228	420	185	306	154	282	188	232	135	254	81	317	---	451	87	294	581	223	375
Feb. 27-----	113	245	240	158	208	220	564	430	320	51	39	170	449	81	509	83	---	327	247	154	204	451	396	185	47	38	72	209	343	25	369	---	460	31	(56)	592	212	338
Feb. 28-----	104	447	484	69	211	203	559	416	323	220	343	277	346	133	513	156	---	409	95	501	165	177	526	151	417	159	293	182	214	158	363	---	527	114	423	486	199	313
Mar. 1-----	358	492	471	415	216	171	593	494	435	49	117	366	509	83	560	32	---	415	197	545	(352)	481	523	206	100	44	166	96	349	235	379	---	534	199	116	603	252	160
Mar. 2-----	407	494	450	321	161	134	585	441	487	421	443	508	428	288	555	352	412	419	379	517	(281)	389	519	383	438	277	423	227	419	402	368	---	505	189	442	552	468	357
Mar. 3-----	242	403	379	365	53	242	606	480	235	383	385	341	481	443	555	448	399	318	373	407	(335)	373	(245)	174	430	292	407	272	401	327	446	---	444	90	458	526	354	396
Mar. 4-----	195	235	220	56	52	479	543	520	315	72	61	232	444	121	566	92	409	199	398	331	(261)	261	(512)	317	98	84	91	376	476	186	281	---	522	96	106	280	255	348
Averages------	224	386	(358)	211	136	223	541	458	353	215	232	291	431	201	534	202	351	331	262	383	(288)	331	(432)	224	259	155	241	214	351	201	360	---	492	115	(271)	517	280	327

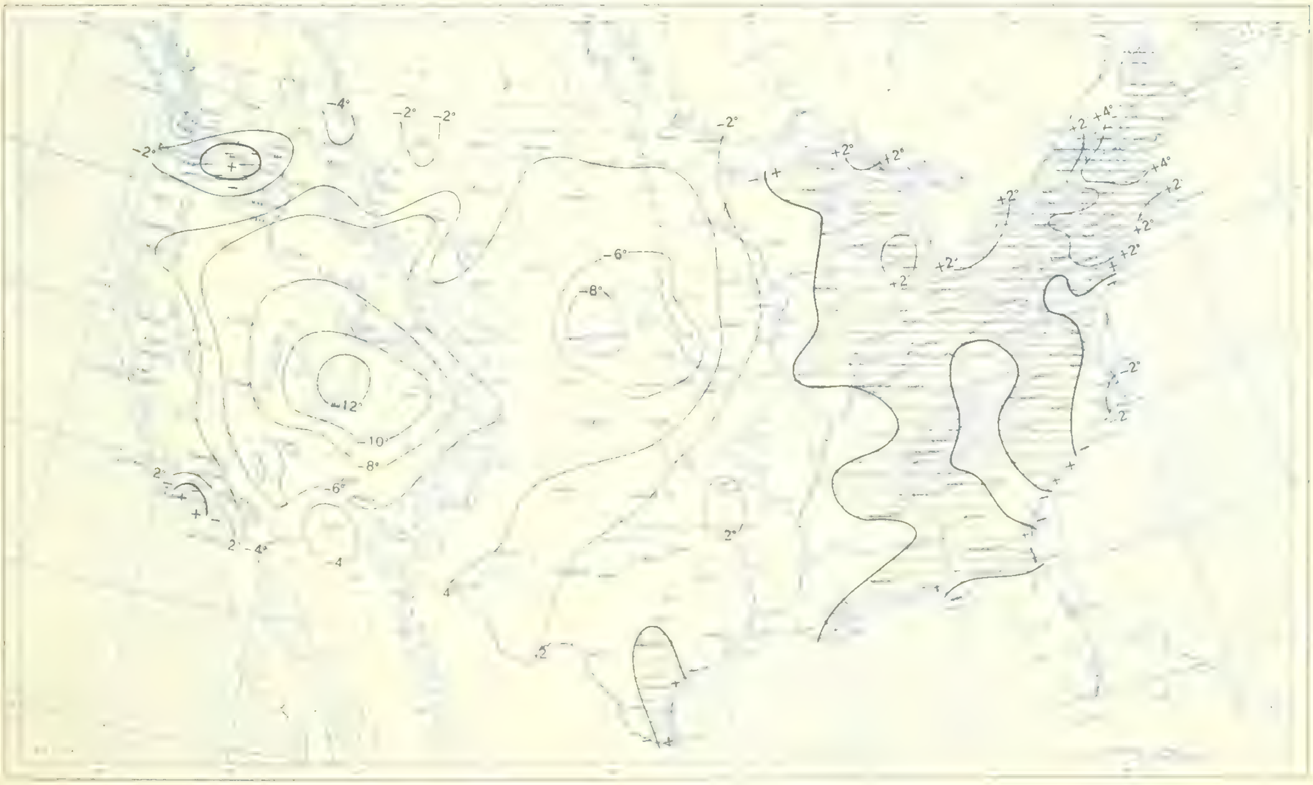
Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

NWRC, Asheville, N.C. --- 4/27/55 --- 1800

Chart I. A. Average Temperature (°F.) at Surface, February 1955.

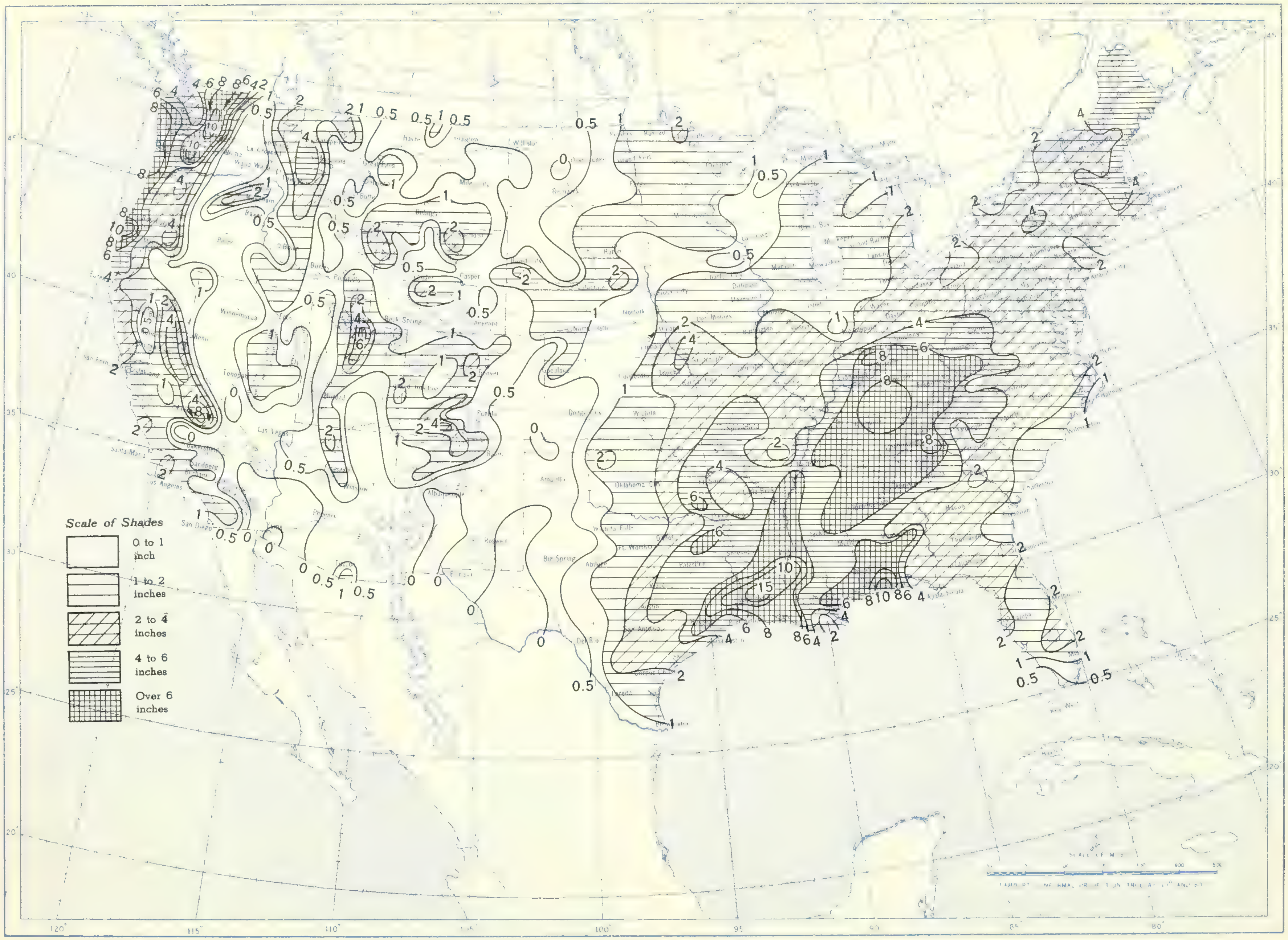


B. Departure of Average Temperature from Normal (°F.), February 1955.



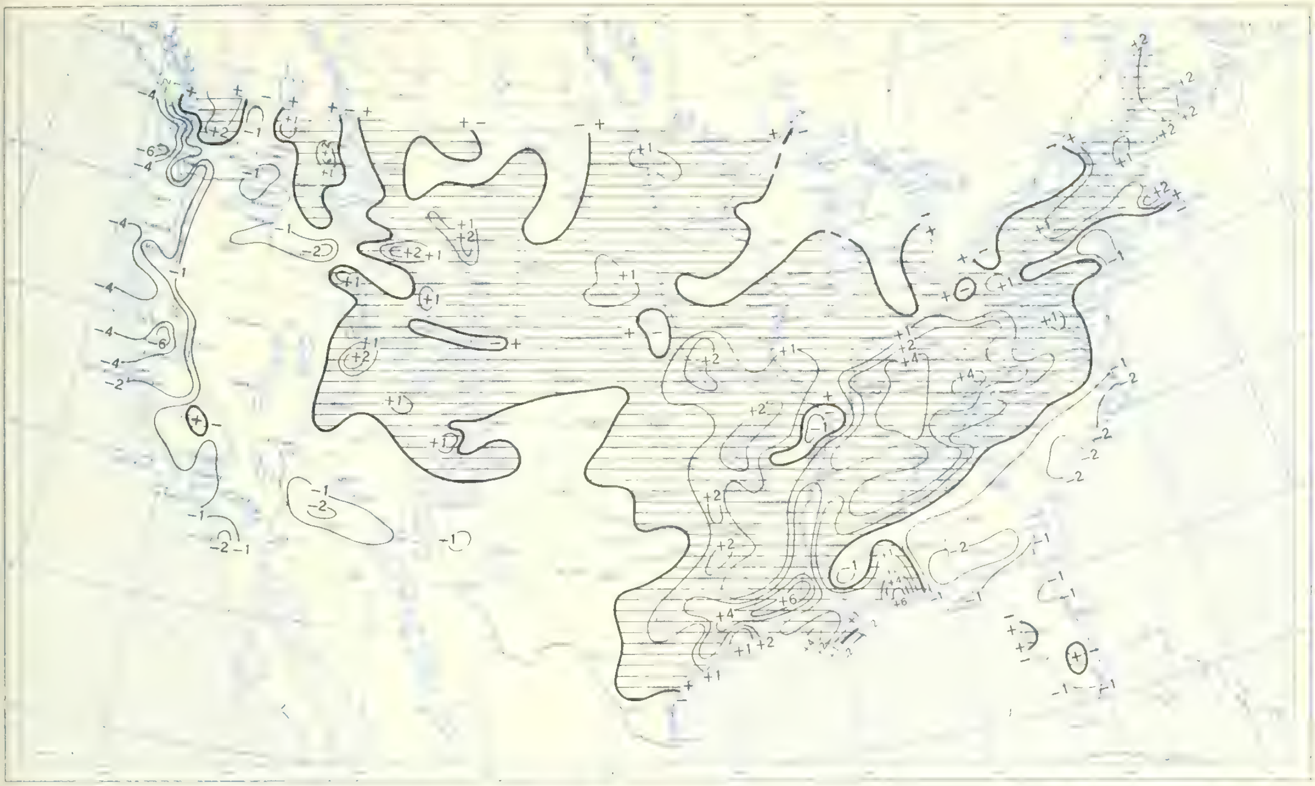
A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima [illegible]
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 [illegible]

Chart II. Total Precipitation (Inches), February 1955.

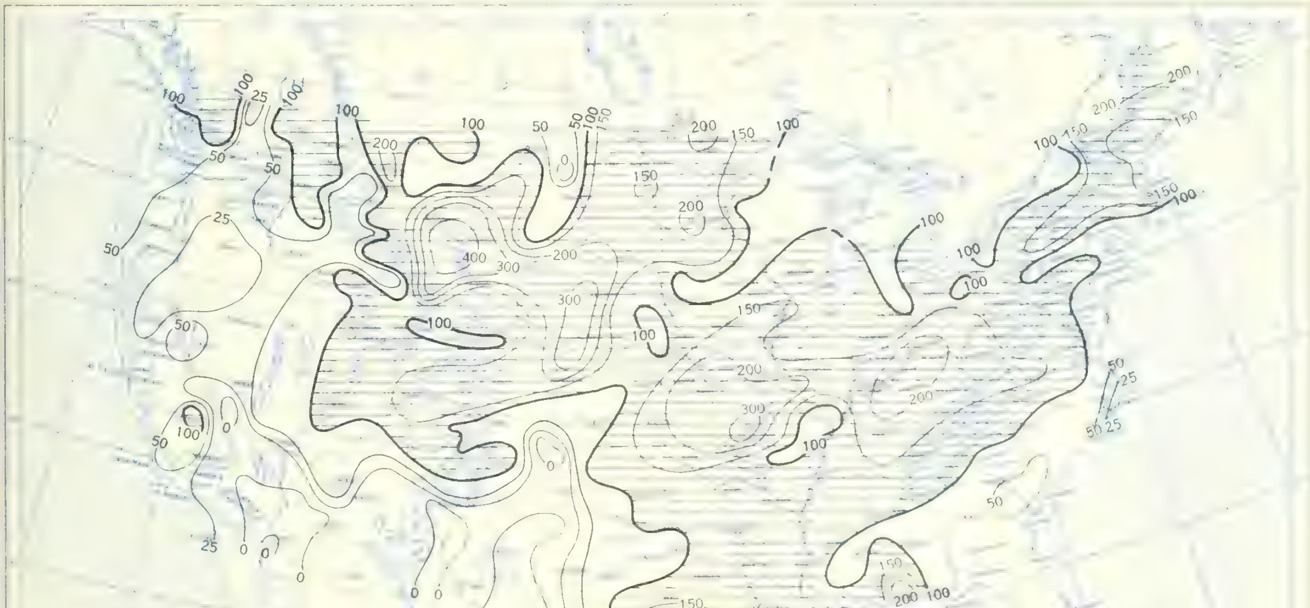


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), February 1955.

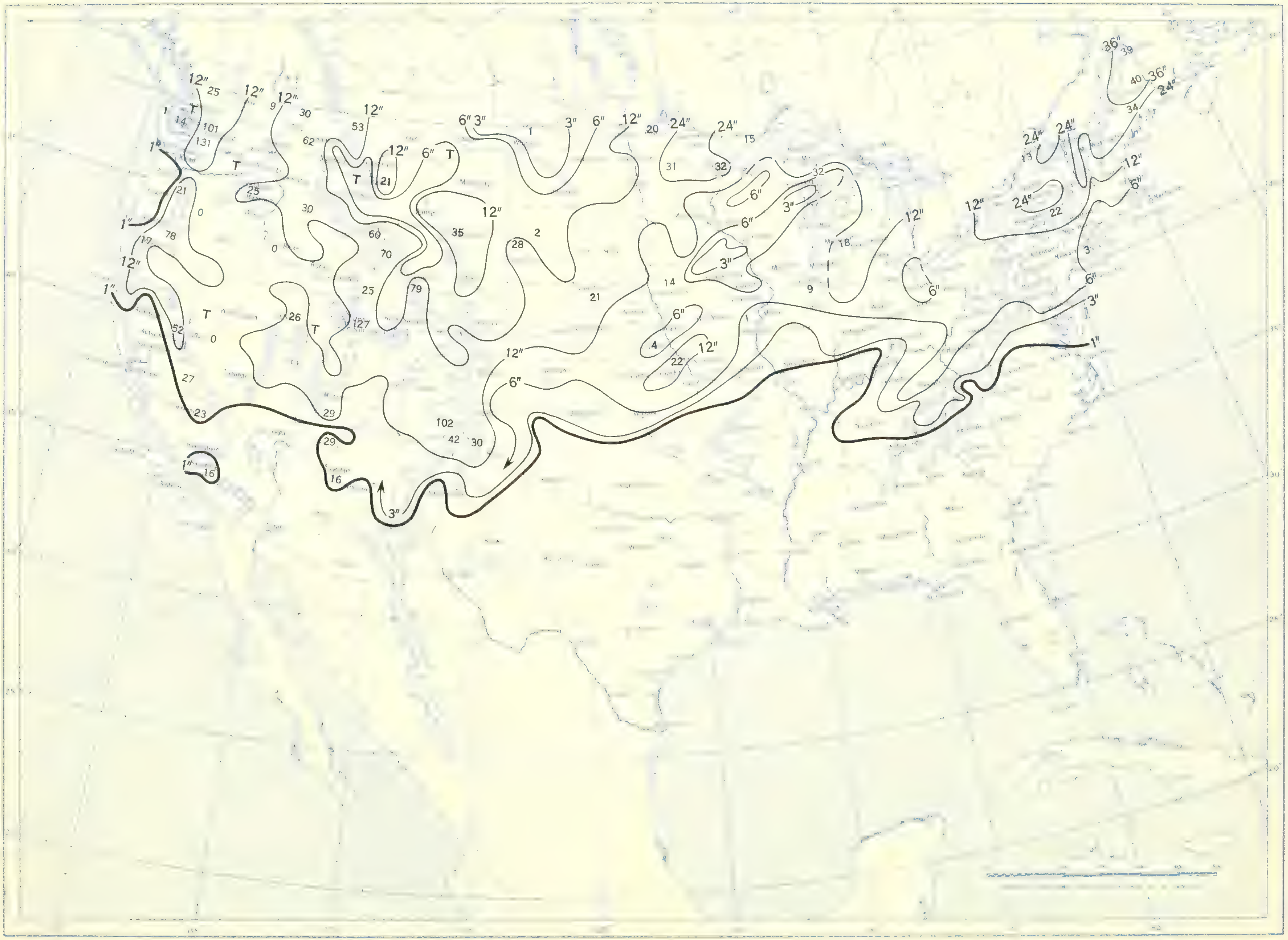


B. Percentage of Normal Precipitation, February 1955.



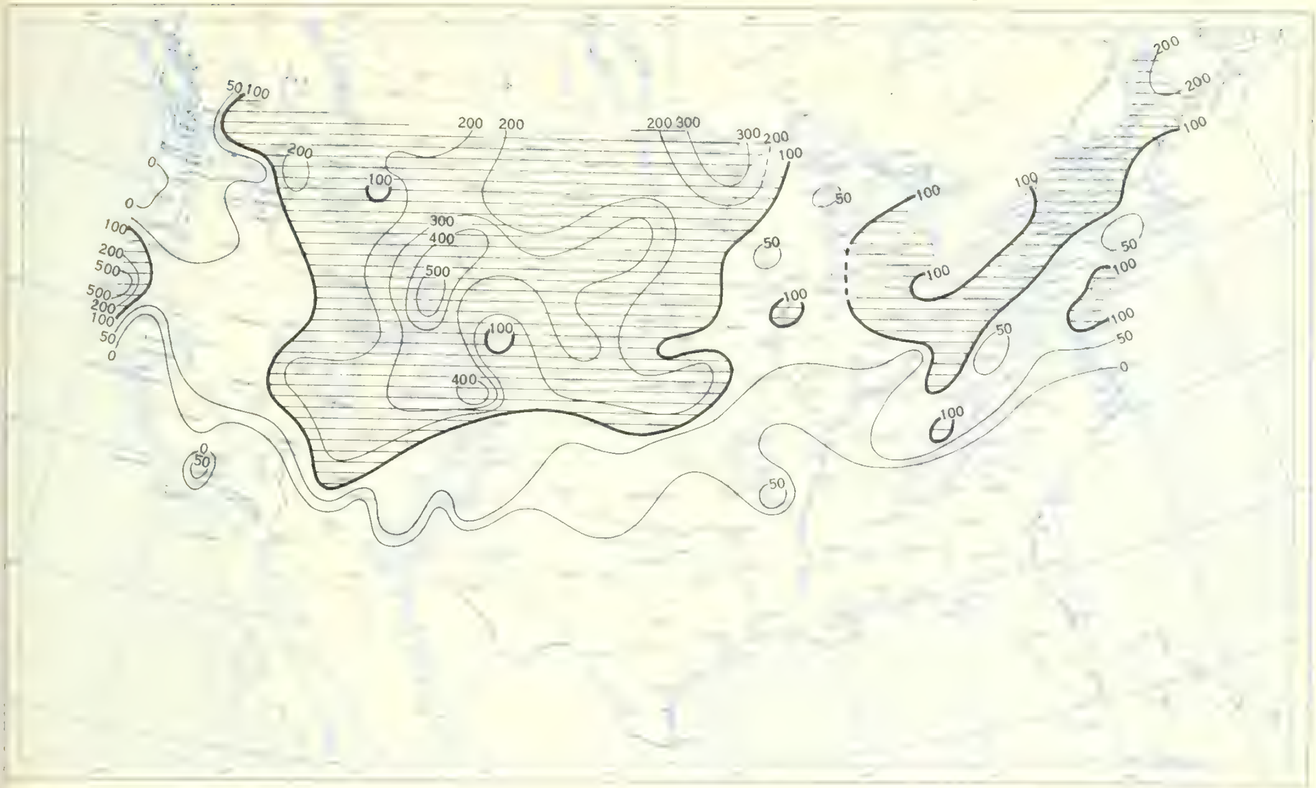
Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart IV. Total Snowfall (Inches), February 1955.

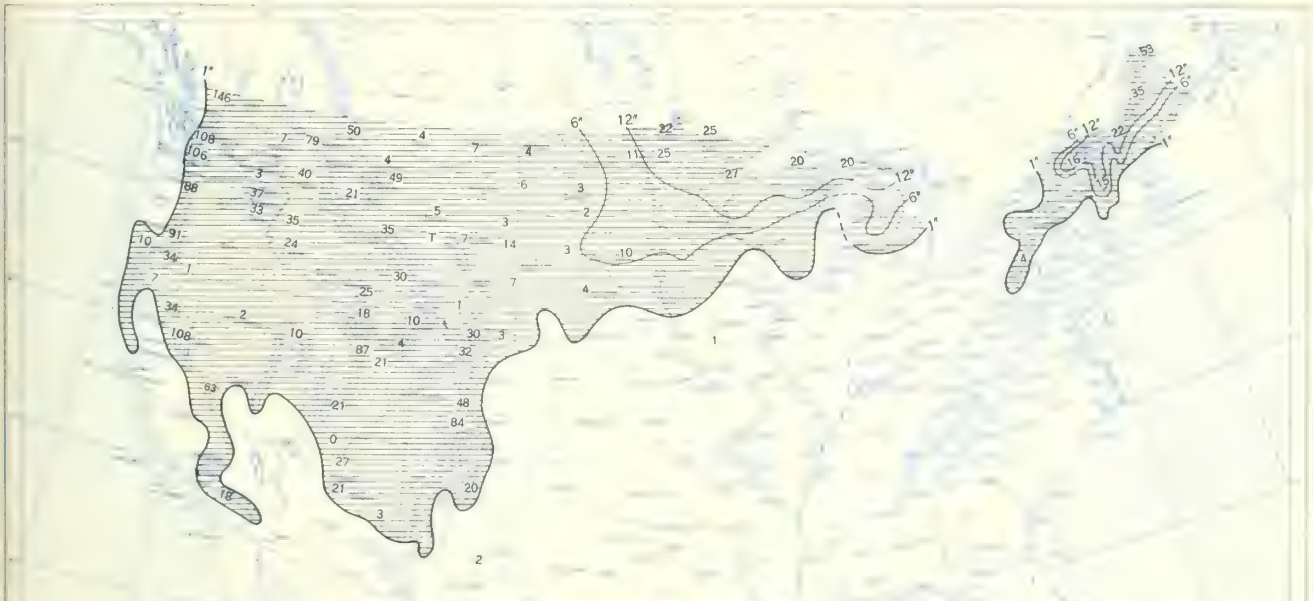


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only

Chart V. A. Percentage of Normal Snowfall, February 1955.

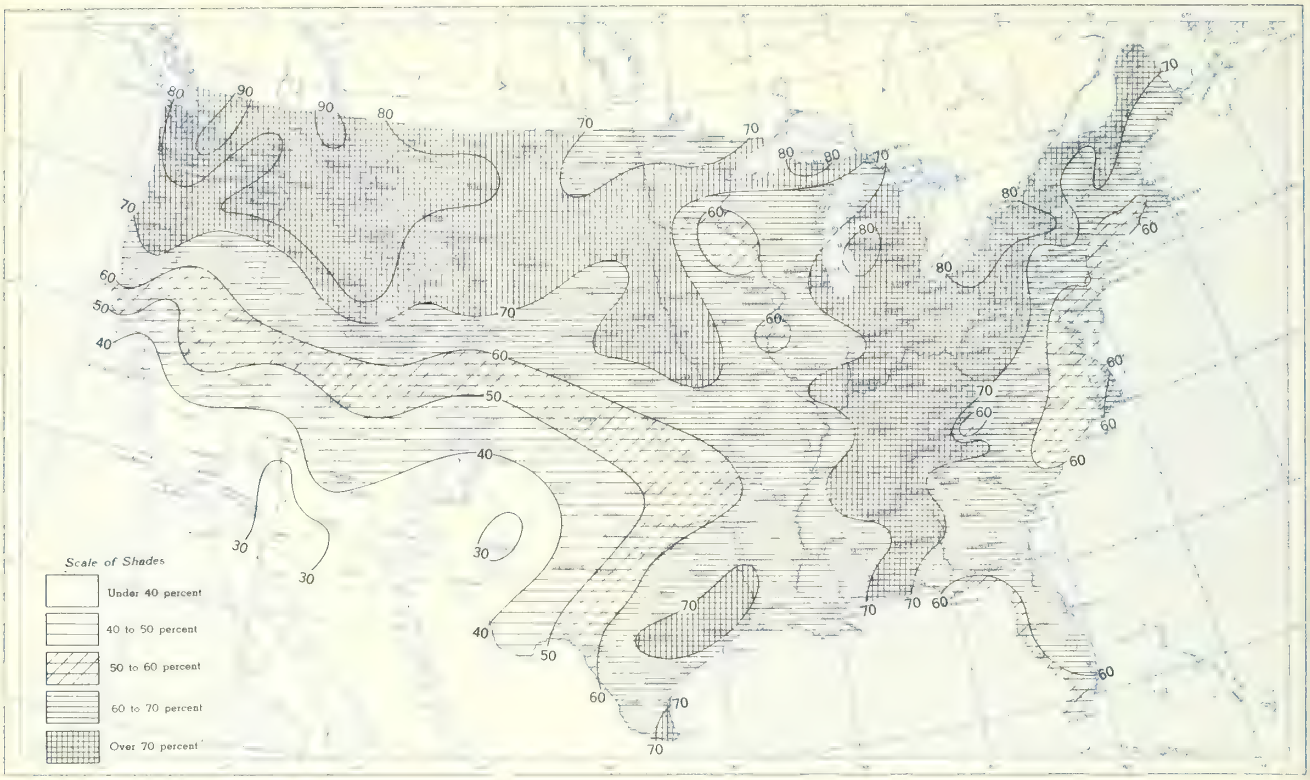


B. Depth of Snow on Ground (Inches). 7:30 a. m. E. S. T., February 28, 1955.

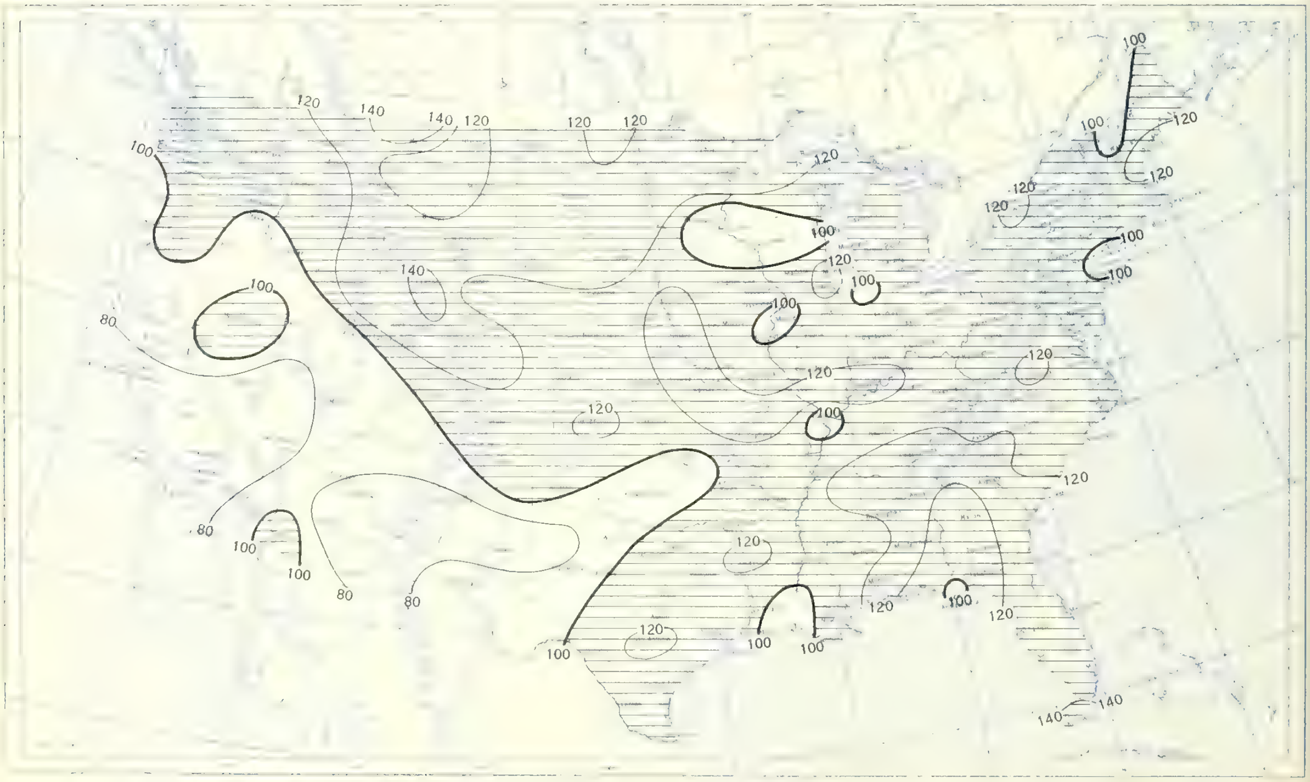


A. Amount of normal monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:30 a. m. E.S.T., of the Tuesday nearest the end of the month. It is based on reports from Weather Bureau and cooperative stations. Dashed line shows greatest southern extent of snowcover during month.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, February 1955.

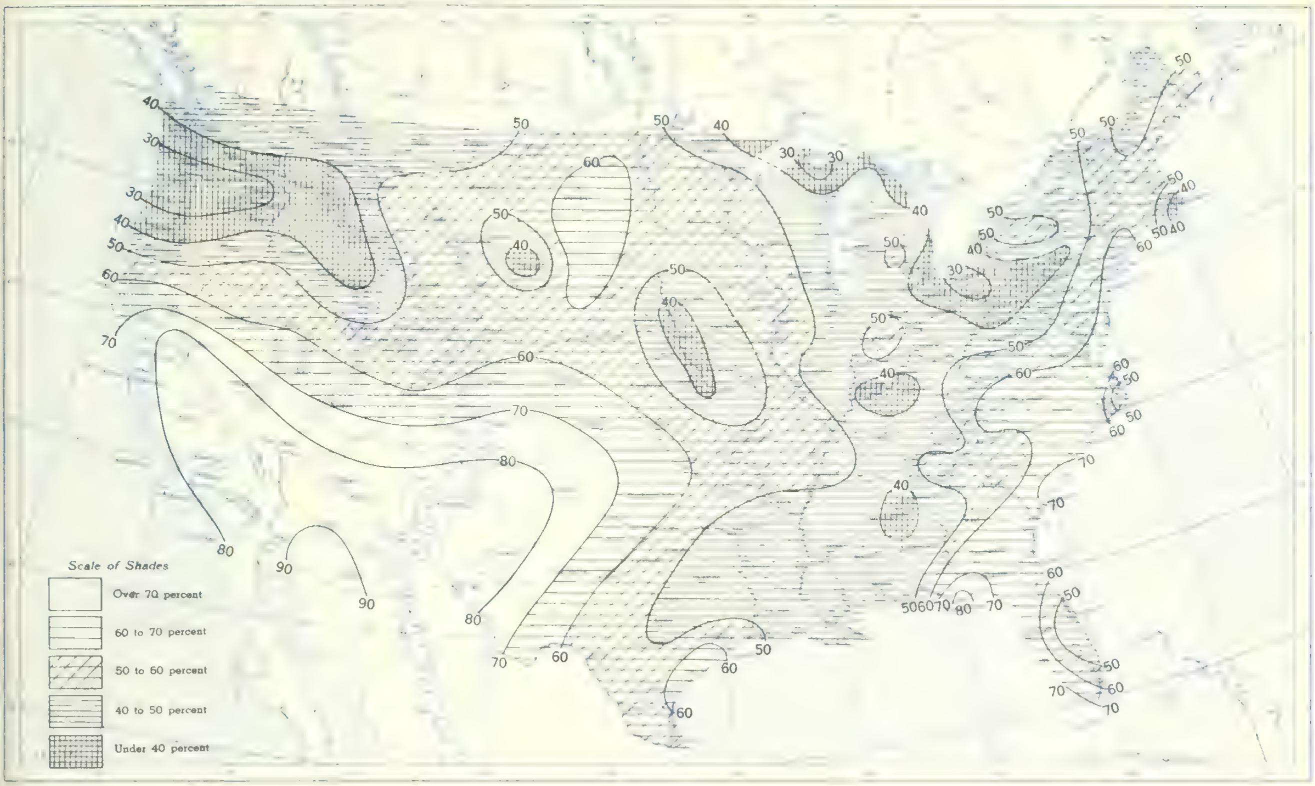


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, February 1955.

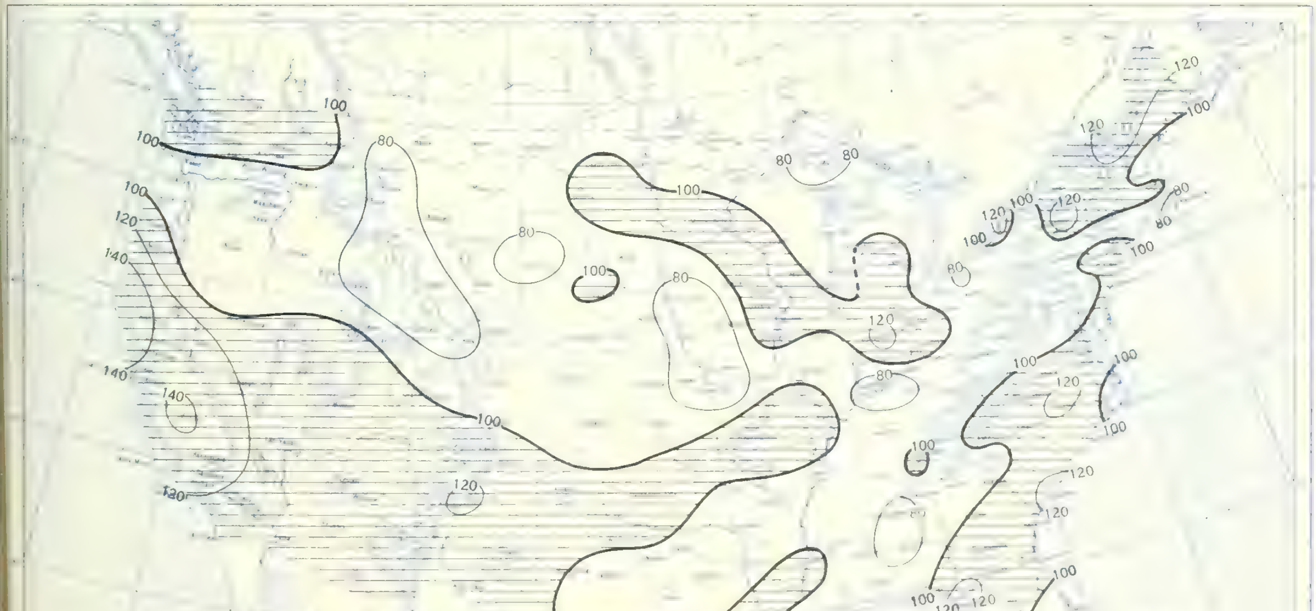


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, February 1955.

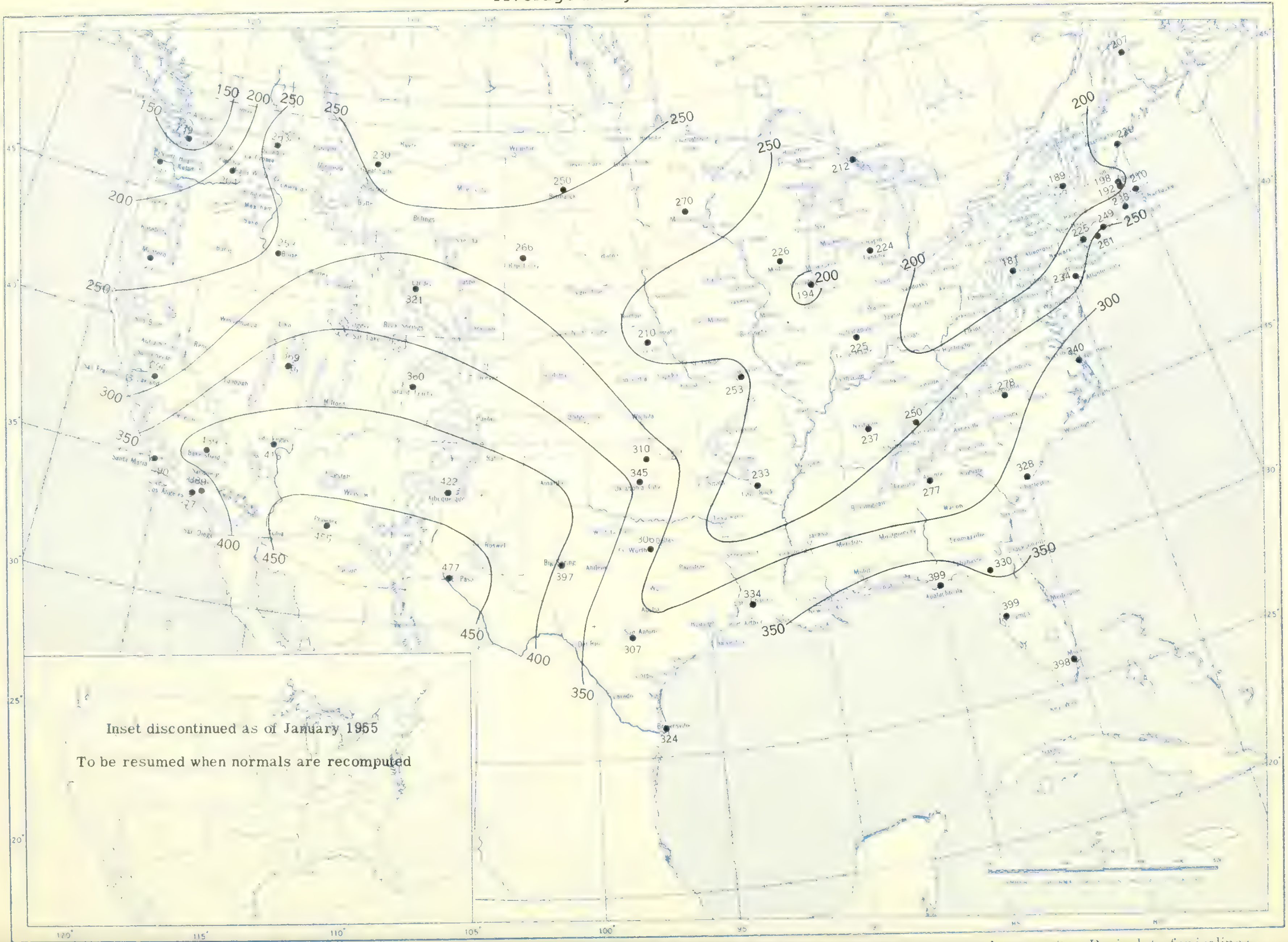


B. Percentage of Normal Sunshine, February 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

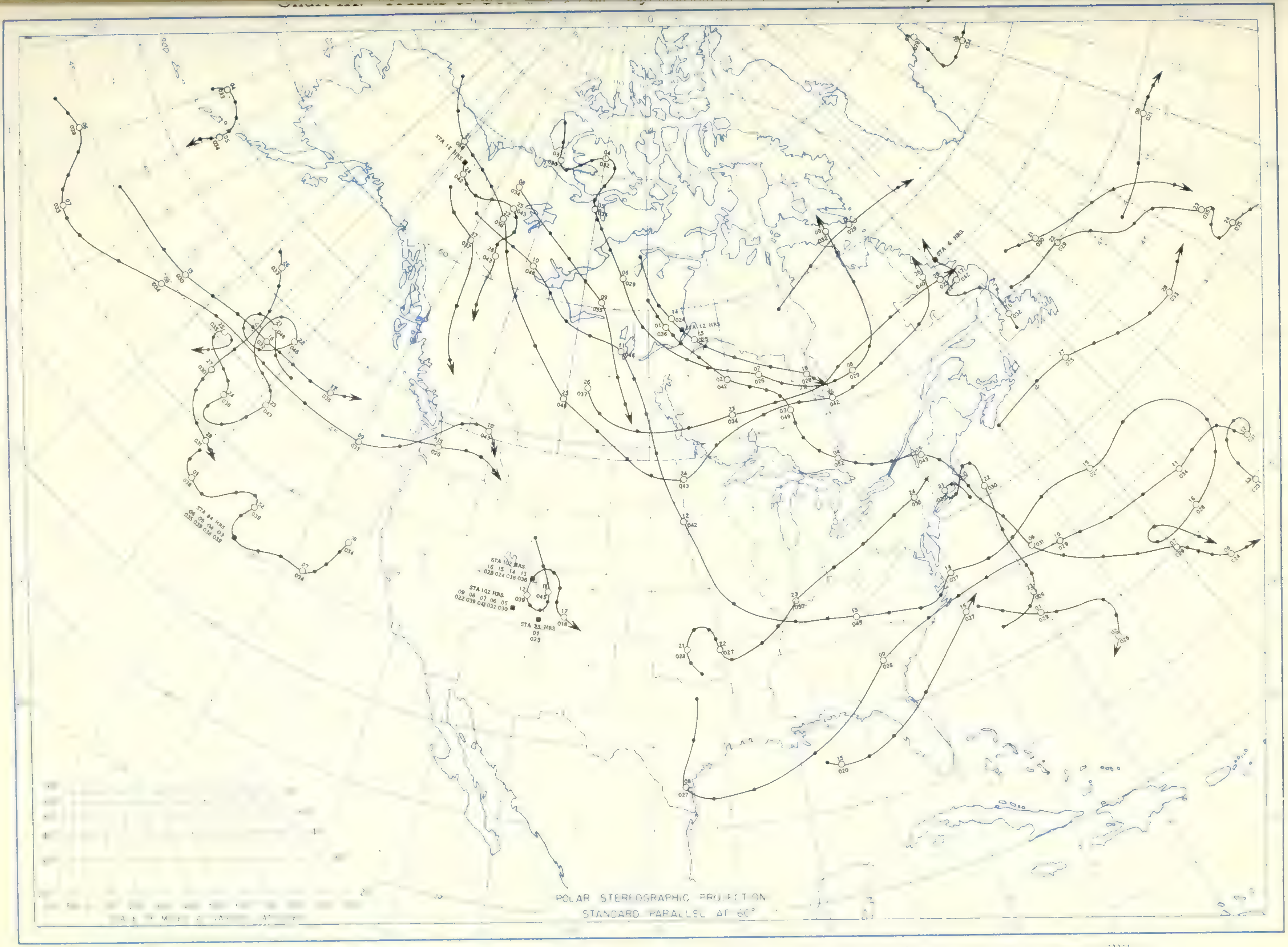
Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, February 1955. Inset: Percentage of Normal Average Daily Solar Radiation.



Inset discontinued as of January 1955

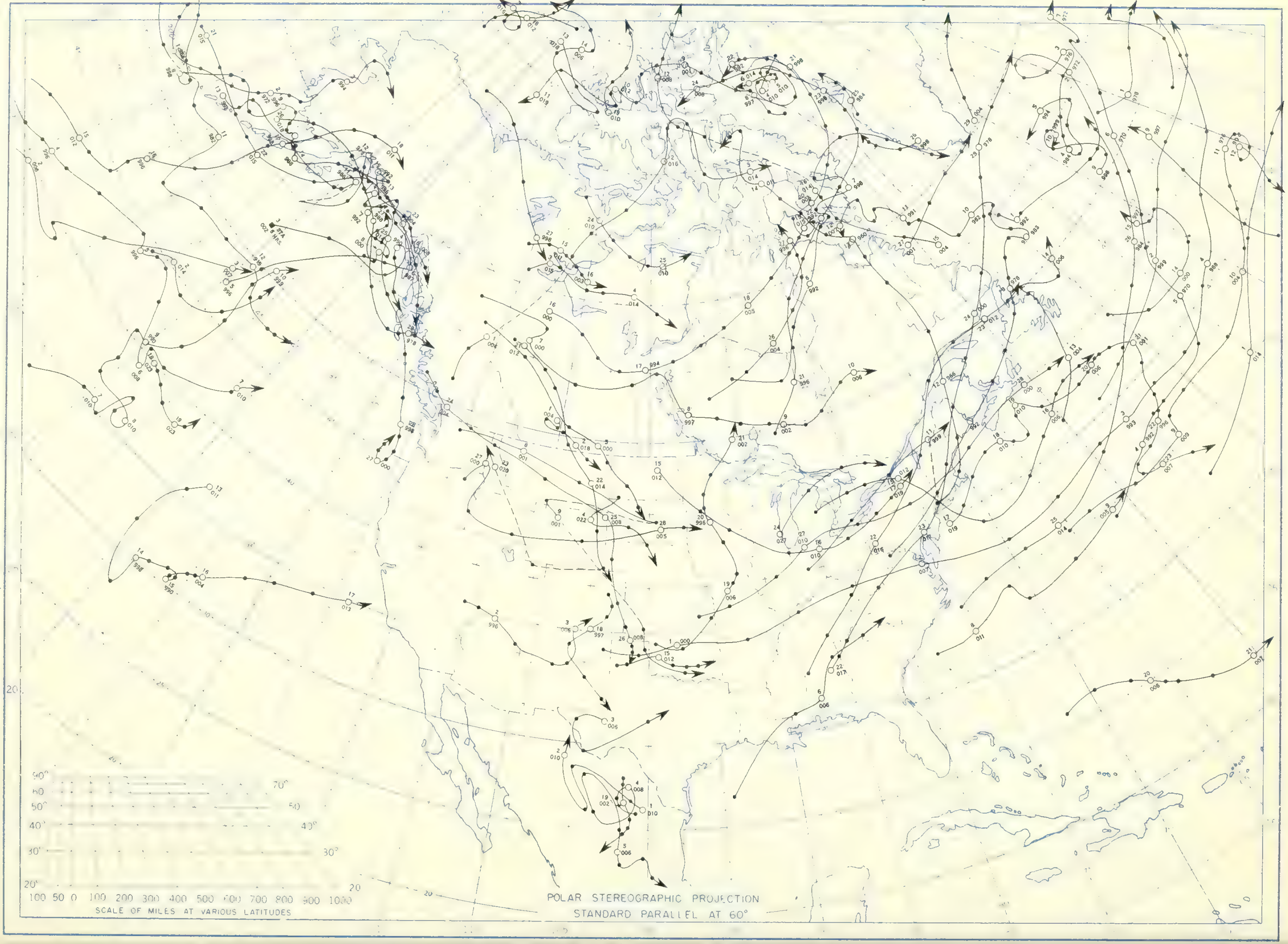
To be resumed when normals are recomputed

Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.). Basic data for isolines

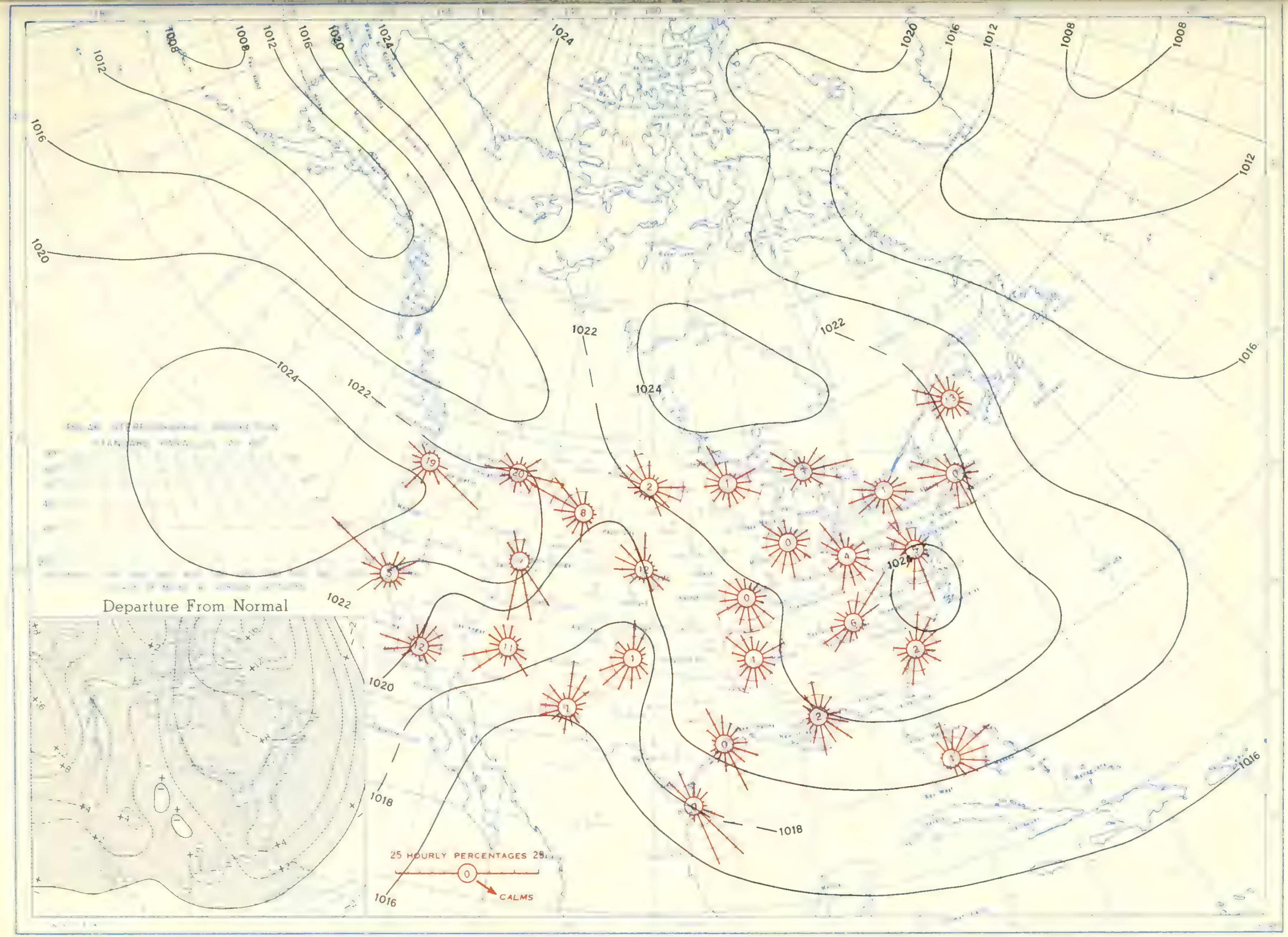


Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 21 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, February 1955.

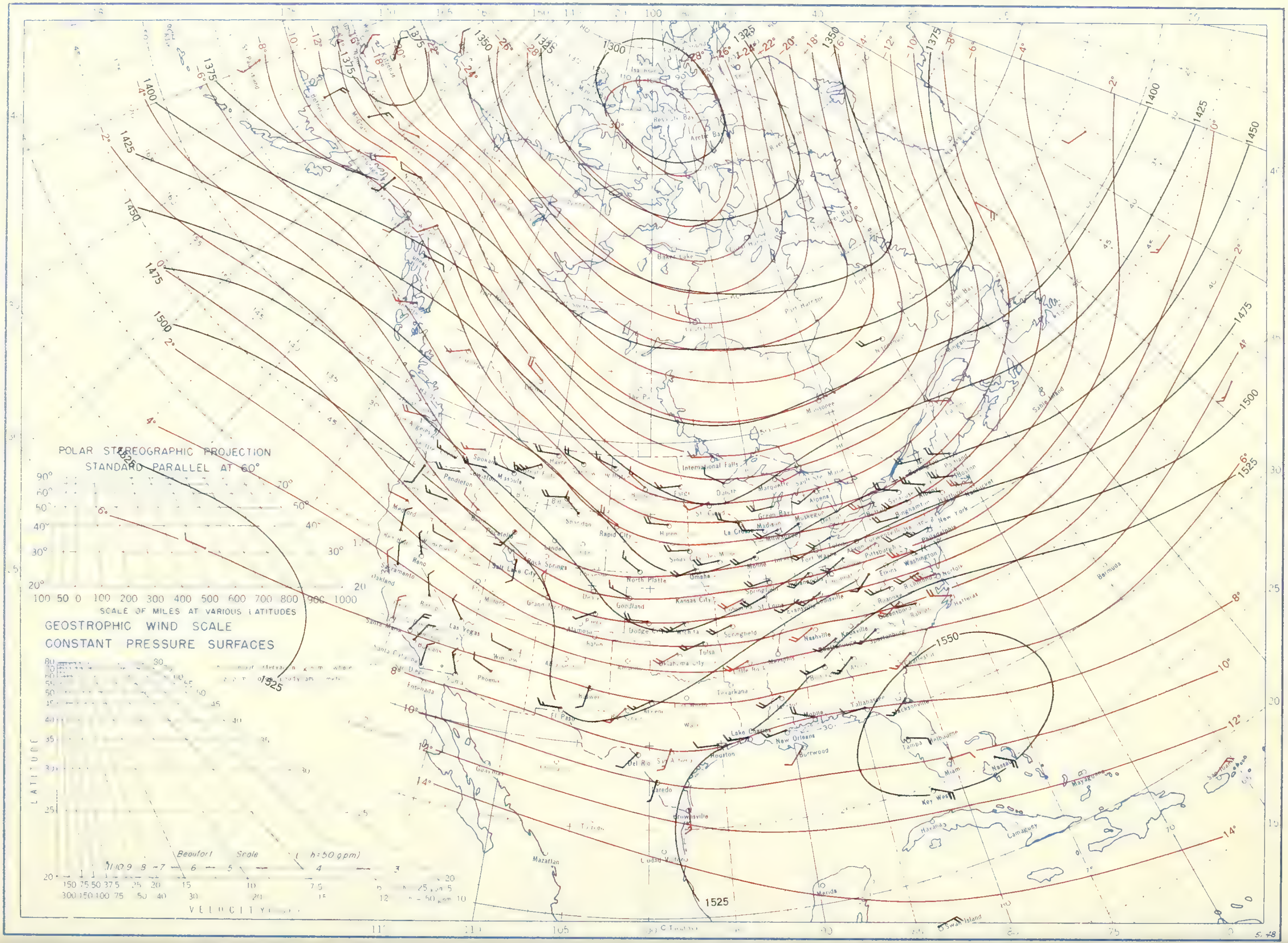


Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for

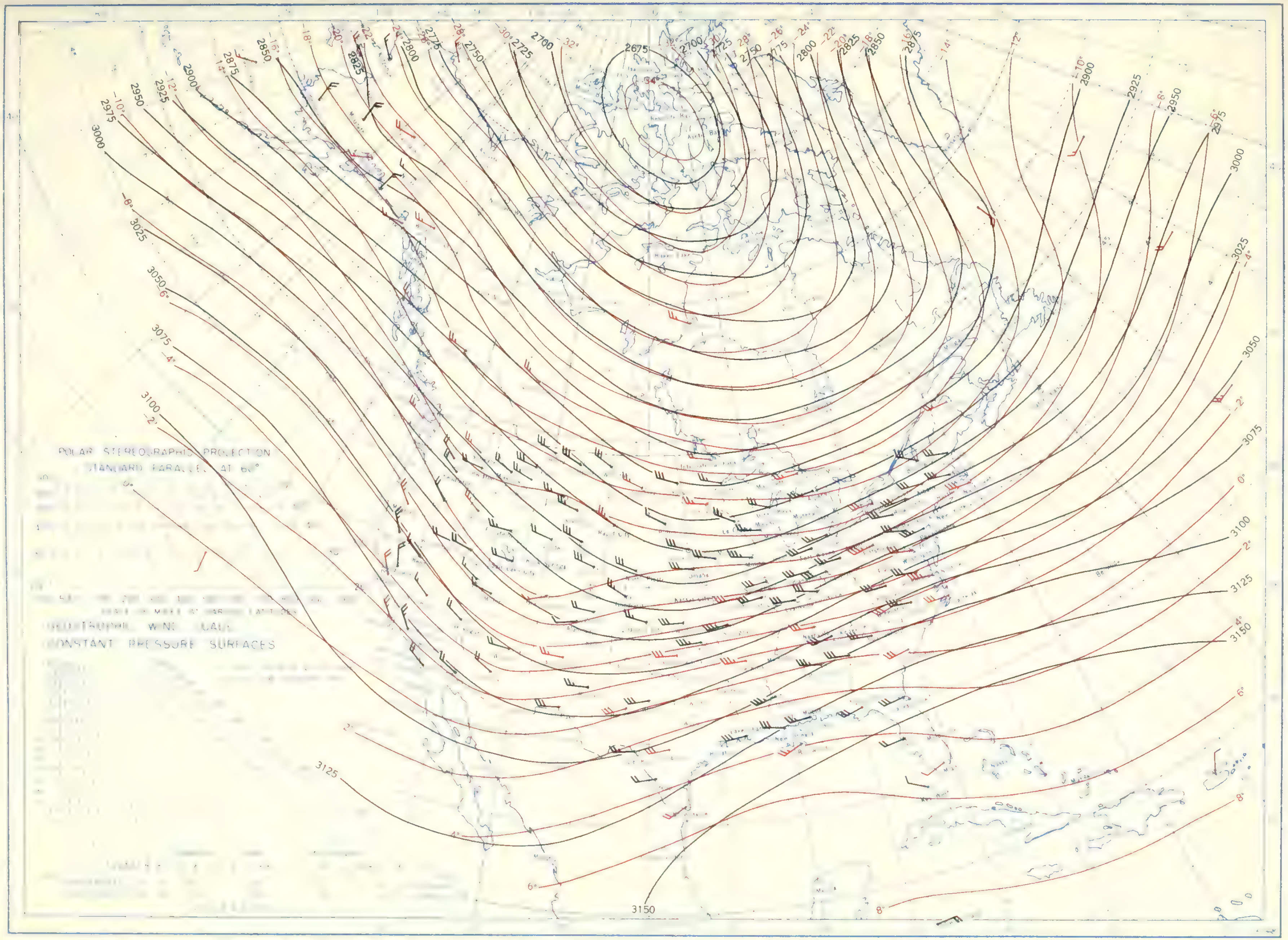


Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), February 1955.

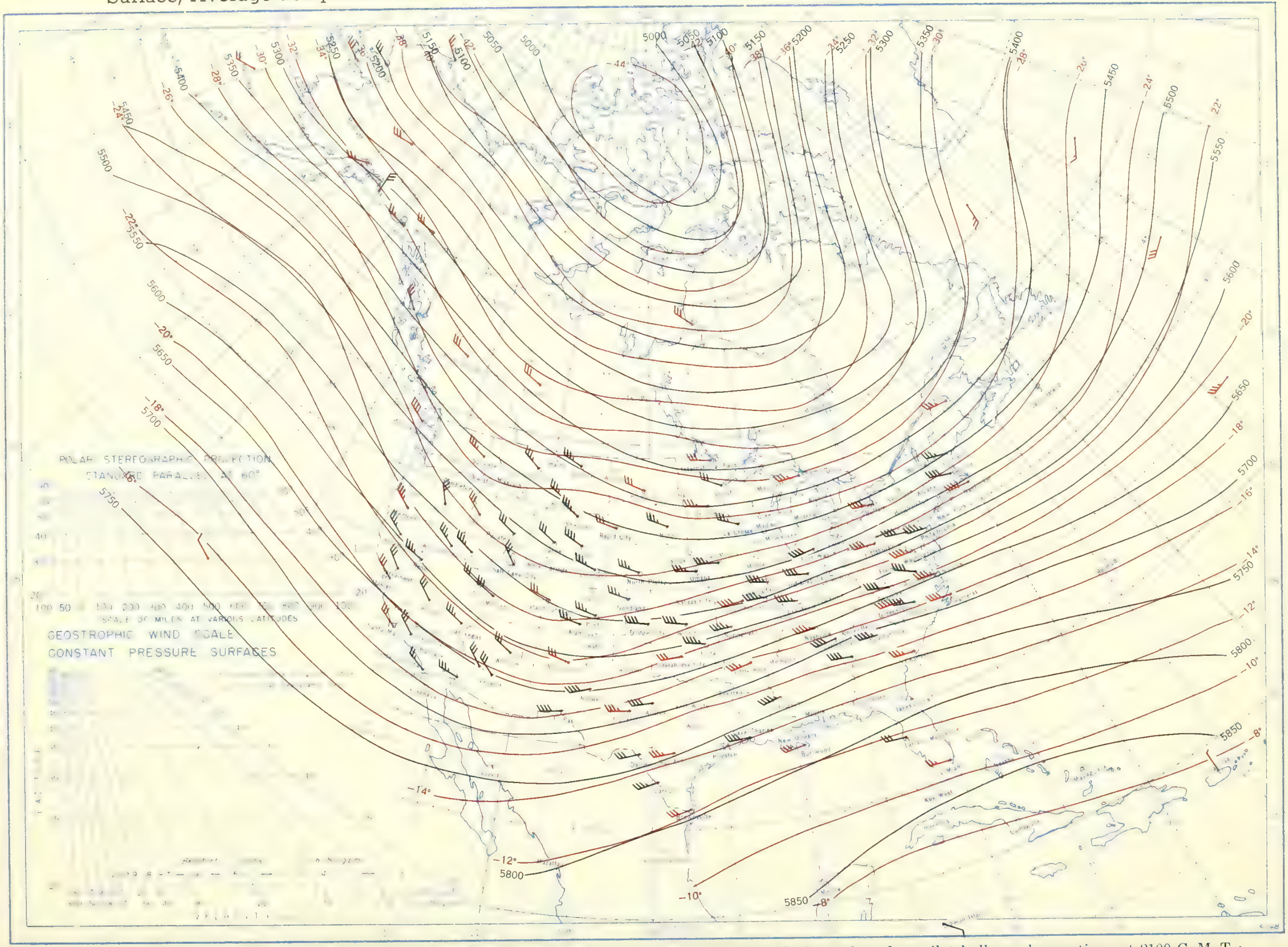


Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), February 1955.



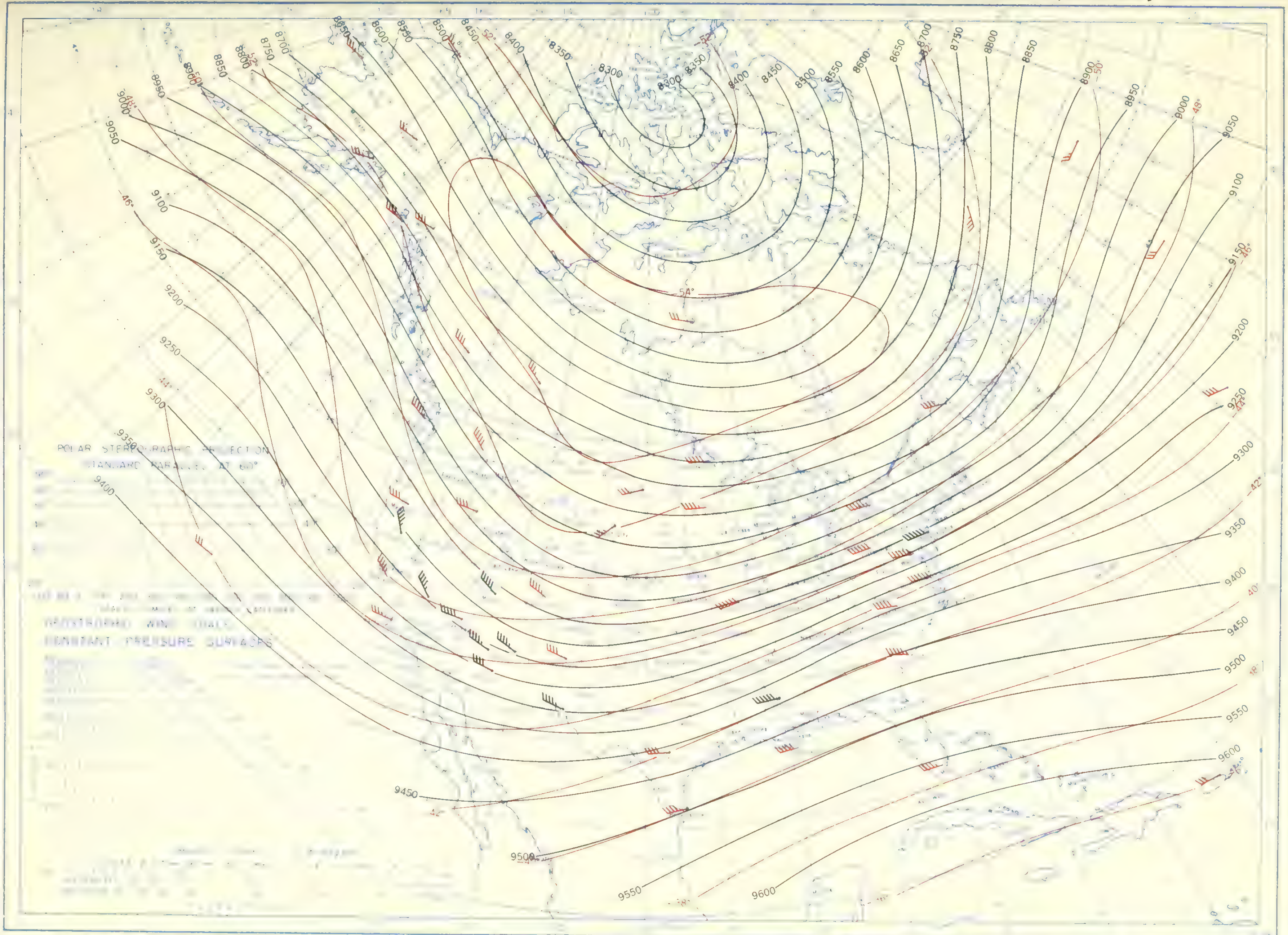
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), February 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;

Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), February 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MARCH 1955
Volume 6 No. 3

ASHEVILLE: 1955

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CHARTS I-XV

NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 6 No. 3 MARCH 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

March, as usual, exhibited weather of extremes, t one moment lulling the Nation into spring fever ith unusually warm weather and at the next uneashing blizzards, tornadoes, and record cold. he contrasts of the month were further accentuted with a flood crest, highest since 1948, assing down the Ohio River while choking dust-torms stirred up over the "dustbowl" area of olorado, Kansas, Oklahoma, Texas, and New Mexico arried eastward by the upper-level winds spattered ud when rains fell over the Middle Atlantic tates. Whipped by strong winds over Lake Erie, reat ice floes were forced across Niagara Falls ausing jams and flooding in the river below the alls, even as a most damaging freeze and record old swept eastward and southward to practically uin the prospective peach crop and other blosomed fruits in the Southern States. Only Califrnia escaped the violence of winter's last major hallenge to spring, since low temperatures penerated the Rocky Mountain States and spilled over nto Washington and Oregon to establish record, ate-season, low temperatures.

TEMPERATURE.--A cursory examination of the verage temperatures or departures from normal or the month do not present an adequate picture. hereas, on a monthly basis, everywhere south nd east of lines joining Boston and Detroit and hence to Yuma, Ariz., shows positive departures, he fluctuations in temperature must be examined o appraise effects. Freezing temperatures as ar south as Florida and all of the Gulf Coast, xcept portions in Texas, accompanied by high inds doomed fruit crops which had been hastened nto bloom by earlier unseasonably warm weather. ew Orleans' temperature of 30° on the 27th was he lowest temperature so late in the season for 2 years of record. Helena, Mont., on the 25th ecorded -30° which is the lowest temperature of ecord for that station during March. In sharp ontrast were the record-high temperatures for o early in the season on the 10th - 86° at St. Louis, 61° at Muskegon, Mich., and 68° at Hartford, Conn., for example.

PRECIPITATION.--Precipitation was generous from east-central Texas to New England, partly alleviating critically dry conditions in Alabama, Georgia, and Florida over which numerous fires were raging earlier in the month. Intensities were great over the Ohio Valley early in the month and again later, resulting in flooded conditions, but snowfalls were welcomed over the Cascades and Rockies early in the month where considerable depth was added to the snowpack. March brought no relief to the drought-stricken area of Colorado, Kansas, Oklahoma, Texas, and New Mexico. Little or no rain during the month combined with high winds resulted in serious blowing of topsoil and deepened the gloom within the parched area. Lack of precipitation in the Sierras, southern Rockies, and Southwest in general created additional apprehension in those areas.

SEVERE STORMS.--An intense instability line that formed just east of the Rockies on the 10th produced high winds of 40 to 60 m.p.h., over the Great Plains with gusts of 95 m.p.h., recorded near Boulder, Wyo. Tornadoes and strong winds along the squall line from the lower lake region and Ohio Valley to Pennsylvania on the 11th caused damage estimated in the millions of dollars and several deaths. Tornadoes in Missouri and Mississippi and severe thunderstorms with hail in Texas were reported on the 20th and 21st. Tornadoes were also reported in Ohio on the 22d and in Tennessee on the 26th. High winds on Lake St. Clair on the 22d with gusts approaching 70 m.p.h., resulted in considerable damage to shore properties, and on the same day high winds caused damage as far east as New England. The third decade of the month ushered in blizzards to the Great Plains States, extending as far south as eastern Oklahoma.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature								Precipitation					
			Monthly extremes								Monthly extremes			
	Average	Departure from normal	Station	Highest	Date	Station	Lowest	Date	Average	Departure from normal	Station	Greatest	Station	Lea
	°F	°F		°F.			°F.		In.	In.		In.		Ir
Alabama	59.1	3.1	Geneva	92	13	Madison	11	26	3.37	-2.66	Youngs Store	12.17	Fort Morgan	0.0
Arizona	50.1	-.3	Litchfield Park	97	26	Maverick	-9	21	.11	-.87	Flying H Ranch	1.73	67 Stations	.0
Arkansas	53.0	.2	Narrows Dam	93	13	2 Stations	2	26	5.67	1.14	Dermott	9.69	Whitecliffs	3.0
California	50.9	-.5	Mecca	98	26	Boca	-15	1	.67	-2.66	Gasquet RS	8.16	38 Stations	.0
Colorado	33.3	-1.1	2 Stations	84	30	Fraser	-31	26+	.59	-.77	Winter Park	3.21	5 Stations	.0
Connecticut	35.8	.0	Danbury	70	10	Falls Village	-6	8	4.37	.25	Walcott Reservoir	5.84	Falls Village	2.8
Delaware	45.4	1.8	Georgetown 5SW	78	22	Middletown 2S	16	8	4.26	.39	Wilmington N Castle WB AP	4.86	Dover	3.5
Florida	67.3	1.9	3 Stations	92	21+	Marianna Ind.School	23	27	1.58	-1.74	Bushnell 2E	4.43	Big Pine Key Inn	.1
Georgia	59.8	2.8	Carrollton	93	12	2 Stations	11	27	1.83	-3.11	Flat Top	8.11	Albany	.0
Idaho	28.7	-7.0	3 Stations	68	29+	Elk City	-38	5	1.22	-.46	Burke 2NNE	6.36	Deer Flat Dam	T
Illinois	41.0	.0	E.St.Louis Parks C	87	10	Stockton	-4	7	2.58	-.62	Makanda 1NW	6.29	New Boston	.
Indiana	41.1	.6	Markland Dam 39	81	5	6 Stations	4	7	3.99	.27	Bluffton	7.79	Terre Haute 8S	1.
Iowa	33.8	1.8	Sidney	78	10	Northwood	-11	7	.97	-.72	DeWitt	2.59	Lake Park	.
Kansas	42.6	-1.5	3 Stations	88	10	Hays 1S	-5	26	.56	-.85	Mound City	3.69	2 Stations	.
Kentucky	48.3	1 8	Murray	81	11	2 Stations	10	26	7.22	2.42	Stearns	11.57	Bardstown S.J.Prep Sch.	3.
Louisiana	63.2	3.4	Converse	94	13	2 Stations	21	27	1.95	-3.63	Bastrop	10.09	9 Stations	.
Maine	27.2	-1.9	Gardiner	62	10	2 Stations	-17	4	4.28	.76	Rockland	7.35	Roxbury	2.
Maryland	45.7	2.8	Baltimore Sledds Pt.	81	16	Bittinger 2NW	7	8+	4.45	.83	Tonoloway	8.18	Ocean City	2.
Massachusetts	35.4	.2	2 Stations	66	10+	West Cummington	3	9	4.21	.28	Spot Pond	5.68	Provincetown 3N	2.
Michigan	29.1	-.5	Baldwin State Forest	73	31	Kenton U.S. Forest	-28	26	2.28	.24	Eagle Harbor CG	6.27	Hubbard Lake Dam	.
Minnesota	19.9	-6.0	Beardsley	70	30	Baudette	-37	7	.77	-.43	Leonard 8NE	1.97	Ortonville Sewage Pl	.
Mississippi	59.9	2.9	Merrill	91	13	2 Stations	15	27	4.30	-1.63	Pontotoc	13.89	Rockport	T
Missouri	44.8	.3	St. Charles	88	10	5 Stations	-1	26+	2.86	-.41	Farmington	6.87	Lathrop 3SW	.
Montana	23.2	-7.6	2 Stations	73	29	West Yellowstone	-43	5	.87	.01	Es'sex	6.09	Phillips 3SW	.
Nebraska	35.4	-1.1	Culbertson	84	30	2 Stations	-11	21+	.46	-.69	Harrison	1.77	3 Stations	T
Nevada	39.5	2.0	N. Las Vegas DOX	86	29	Mountain City RS	-18	5	.22	-.69	Jarbidge	1.70	15 Stations	.
New Hampshire	29.5	.4	Windham	64	31	First Conn Lake	-11	20	3.66	.32	Cannon Mountain	8.34	Bethlehem	1.
New Jersey	41.4	1.8	Hammondton 2NNE	74	11	Layton 3NW	8	8	4.59	.74	Trenton WB City	5.98	Bass River St.Forest	3.
New Mexico	44.9	.7	3 Stations	86	11+	Gavilan	-18	1	.26	-.42	Cloudcroft 1	3.82	20 Stations	.
New York	32.3	.6	2 Stations	72	11	Saranac Lake	-14	8	4.47	1.30	Boonville 2SSW	9.28	Harpursville	1.
North Carolina	53.9	3.3	Sloan 3S	88	16	Boone	3	27	3.40	-.76	Mt. Mitchell TVA	11.41	Raleigh-Durham WB AP	1.
North Dakota	18.6	-6.1	Fort Yates	75	30	2 Stations	-34	6	.50	-.28	Towner	1.79	5 Stations	T
Ohio	40.9	1.8	4 Stations	78	12	Centerburg 2	3	28	4.65	1.18	Higginsport	7.58	Toledo WB Express AP	2.
Oklahoma	51.5	.7	Wewoka 3W	98	10	2 Stations	4	26	2.02	-.25	Heavener	7.28	Cheyenne	.
Oregon	36.5	-5.3	Powers	77	7	2 Stations	-25	5	3.21	.31	Government Camp	22.53	Rome	T
Pennsylvania	39.3	1.5	Uniontown	76	12	2 Stations	-1	8	4.76	1.19	Kregar 4SE	8.83	Rushville	2.
Rhode Island	37.0	.3	Providence WB AP	61	11+	Greenville	12	8	4.31	.20	Providence WB AP	5.35	Greenville	3.
South Carolina	57.5	2.5	2 Stations	91	6+	Caesars Head	8	27	1.95	-2.06	Sassafras Mountain	6.23	Hilton Head	.
South Dakota	29.0	-2.3	Kennebec	80	30	Ralph	-31	5	.36	-.75	Lead	2.06	3 Stations	T
Tennessee	51.1	1.6	Loudon 1E	85	6	5 Stations	9	27	8.39	2.97	Iron City	13.73	Pt. Park Lookout Mt.	4.
Texas	59.0	1.4	2 Stations	100	12+	Mount Locke	4	26	.80	-.97	Quitman	5.97	Numerous Stations	.
Utah	34.4	-3.8	St. George PH	78	8+	Woodruff	-26	5	.38	-.98	Alta	7.59	9 Stations	.
Vermont	28.1	-.8	Bennington 2NW	63	10	Woodstock 3ENE	-12	8	3.80	.83	Somerset	6.40	Gilman	1
Virginia	48.6	2.9	5 Stations	81	5+	Big Meadows	4	27	4.92	1.25	Tazewell	12.05	West Point 2SW	2
Washington	35 0	-6.5	Sunnyside	69	9	Stockdill Ranch	-25	4	3.43	.42	Stampede Pass WB	19.54	Sunnyside	
West Virginia	44.1	1.6	Glenville 1	80	12	Pickens 1	2	27	6.55	2.60	Matoaka	10.83	Moorefield	3
Wisconsin	26.1	-2.4	Beloit	70	10	Gordon 2ESE	-32	7	1.41	-.21	Breakwater	3.30	Brodhead	
Wyoming	24.7	-5.2	3 Stations	70	8+	Snake River	-36	5	.92	-.16	Snake River	4.70	Farson	
Puerto Rico	72.3	-1.2	Dorado	94	29	Garzas Dam	45	24	1.96	-1.47	Rio Blanco (1800)	7.08	San Francisco#3 (3)	

+ And also on a later date or dates.

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observat

able 2

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb.	Mb.	°F	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M p. h.		M. p h			0–3	4–7	8–10	0–10	%
LABAMA																																
rmingham	610	992.5	1018.1	70	45	57.6	3.8	84	12+	18	27	0	9	44	66	4.16	-2.15	1.68	10	4	T	T	11.3	SSW	65	SW	21	8	8	15	6.2	51
bile	211	1010.8	1019.0	76	53	63.7	4.2	85	16	26	27	0	2	52	73	1.47	-6.15	1.34	3	1	0.0	0	13.0	S	-	---	-	7	16	8	5.6	--
tgomery	198	1011.2	1018.7	74	49	61.4	4.3	88	11	21	27	0	5	48	68	2.18	-4.32	1.08	6	4	.0	0	9.1	SSW	34	W	6	9	8	14	5.8	59
RIZONA																																
gstaff	6993	------	------	50	20	34.9	.5	60	24+	4	1	0	29	--	-	.17	-1.40	.10	3	0	1.0	6	----	---	-	--	--	20	6	5	3.0	--
oenix	1114	975.3	1014.3	76	47	61.6	1.7	86	25	35	21	0	0	29	31	T	.66	T	0	0	.0	0	5.3	SE	*32	WNW	20	21	5	5	3.0	97
escott	5014	846.3	1015.6	61	29	45.2	.4	72	8+	17	21	0	22	-	-	.12	.86	.11	2	0	T	0	9.5	SSW	43	W	30	19	6	4	3.0	89
cson	2558	925.5	1013.8	75	44	59.6	1.7	87	8	26	22	0	1	21	24	.03	-.65	.02	2	0	.0	0	7.8	SE	41	SE	27	17	7	7	4.1	88
nslow	4880	850.3	1014.2	63	28	45.2	-.3	73	24+	13	21	0	23	10	28	.14	.26	.10	2	0	.2	T	10.1	WSW	*49	SW	30	20	6	5	3.1	--
ma	199	1009.1	1014.6	81	49	64.7	-1.0	93	25	37	22	2	0	20	22	.00	-.26	.00	0	0	.0	0	7.8	N	34	N	20	24	5	2	2.0	92
RKANSAS																																
t Smith	458	999.3	1014.9	64	41	52.1	-.2	86	11	15	26	0	9	41	68	5.18	2.09	1.92	8	6	T	T	8.3	ENE	33	E	31	13	5	13	5.9	58
tle Rock	257	1003.4	1016.6	64	44	54.1	1.3	85	11	19	26	0	7	41	64	4.75	-.10	2.35	10	5	T	0	11.6	SSW	41	SE	21	8	6	17	6.7	54
xarkana	361	1003.1	------	68	46	57.1	1.1	89	12	21	26+	0	7	--	--	6.03	1.10	3.48	9	7	T	0	---	--	--	---	--	--	--	--	-	--
ALIFORNIA																																
ersfield	489	1000.7	1019.1	71	44	57.3	.2	85	8	35	1	0	0	36	49	.25	-.86	.25	1	0	.0	0	6.0	NW	*23	NNW	8+	19	7	5	3.1	--
hop	4108	874.0	1016.3	66	26	45.5	-1.9	76	24+	16	16+	0	24	--	--	T	-.66	T	0	0	.0	0	----	---	--	---	--	21	6	4	2.7	--
e Canyon	5280	839.5	1019.0	47	30	38.6	-.1	60	25	19	20	0	20	--	--	3.98	-3.48	1.58	5	1	10.7	30	---	---	--	---	--	14	6	11	4.5	--
bank	699	990.5	1016.9	72	46	58.8	1.9	88	26	37	1	0	0	39	55	.52	-1.73	.28	4	2	.1	T	5.5	S	*22	NW	25	18	7	6	3.5	--
eka CO	43	1020.3	1022.7	52	40	45.8	-3.3	66	28	31	5	0	2	--	--	1.82	-2.82	.63	12	1	T	T	7.7	---	33	NW	19	10	2	19	6.3	66
sno	331	1006.8	1018.7	68	40	53.9	-1.6	81	28	31	1	0	2	38	59	.07	-1.56	.07	1	0	.0	0	5.8	NW	30	NW	20	19	8	4	3.0	93
Angeles CO	312	------	------	71	51	61.3	2.4	87	26	45	1+	0	0	43	57	.56	-1.80	.54	2	1	.0	0	6.4	---	28	NW	20	17	11	3	3.4	80
Angeles	99	1013.2	1016.8	69	50	59.2	2.7	87	7	42	1	0	0	45	65	.15	-1.76	.15	2	0	.0	0	7.0	W	%36	N	20	17	9	5	3.5	--
Shasta CO	3544	894.7	1020.5	52	27	39.5	-2.2	65	7+	17	15	0	26	--	--	.90	-3.18	.73	5	0	.2	6	---	- -	--	---	--	11	6	14	5.3	--
land	3	1020.0	1020.3	63	42	52.5	-.9	78	26	33	1	0	0	39	66	.41	-1.90	.24	3	0	.0	0	7.1	W	*35	NNE	15	18	6	7	3.2	--
Bluff	341	1007.1	1019.8	67	41	54.1	-.2	79	26	32	1	0	1	30	46	.50	-2.11	.31	3	0	.0	0	10.2	NNW	36	SE	29	12	6	13	4.9	86
ramento	17	1018.3	1019.2	68	40	53.9	.0	81	26	31	17	0	2	35	55	.44	-1.65	.36	3	1	.0	0	10.0	NW	36	N	15	21	5	5	2.9	84
dberg	4517	862.9	1016.6	54	38	46.0	1.3	68	8	28	15	0	6	--	--	.18	-1.63	.18	1	0	T	T	----	---	--	---	--	22	6	3	3.0	--
Diego	19	1013.5	1016.8	68	51	59.7	1.5	81	7+	44	1	0	0	45	63	.38	-1.14	.38	2	0	.0	0	6.8	SSW	26	SW	9	19	9	3	3.1	80
Francisco CO	52	------	------	62	48	54.8	-.1	75	26	42	1	0	0	--	--	.29	-2.49	.17	3	0	.0	0	7.9	---	27	W	27	20	8	3	2.5	84
Francisco	1	1019.3	1019.9	63	42	52.5	-.3	77	26	35	1+	0	0	42	72	.20	-2.24	.12	4	0	.0	0	11.0	WNW	37	NNE	20	18	7	6	3.4	--
ta Maria	238	1009.5	1018.3	65	41	53.1	-.9	79	25+	33	1+	0	0	39	64	.28	-2.01	.19	3	0	.0	0	7.2	WNW	*22	SSE	10+	18	9	4	3.2	--
OLORADO																																
mosa	7538	767.7	1016.2	50	13	31.3	-.5	62	30	0	22	0	31	--	--	T	-.43	T	0	0	.2	T	----	---	--	---	-	15	14	2	3.3	--
orado Springs	6173	806.0	1014.2	51	20	35.6	-1.2	73	30	2	26	0	28	9	42	.32	-.37	.11	6	0	4.2	2	13.3	NNE	*45	N	31	16	8	7	3.9	--
ver	5292	833.7	1013.5	50	23	36.5	-1.3	73	30	-4	26	0	26	12	45	1.14	-.05	.50	9	0	19.5	7	11.5	S	49	N	31	13	11	7	4.6	74
nd Junction	4849	858.5	1017.0	49	28	38.5	-2.7	65	30	9	21	0	24	20	50	.17	-.70	.14	3	0	2.0	2	8.7	NW	52	NW	25	14	9	8	4.6	74
blo	4639	853.0	1013.5	57	23	39.7	-.3	78	30	2	26	0	28	11	41	.16	-.54	.10	4	0	1.7	1	11.6	WNW	63	W	22	16	8	7	3.9	80
ONNECTICUT																																
dgeport	7	1012.9	------	47	31	38.6	1.7	63	11	17	8	0	18	--	-	3.53	-.07	.79	13	0	2.9	1	----	---	--	---	--	9	10	12	5.7	--
tford	169	1007.1	1013.1	45	28	36.5	-.7	68	10	11	8	0	25	24	66	4.90	1.09	1.46	15	3	11.3	4	13.4	WNW	43	W	28	8	9	14	6.3	51
Haven	6	1008.4	1012.5	45	29	37.2	.1	61	11	17	8	0	20	--	--	4.93	.81	1.15	15	1	5.3	3	9.1	---	33	E	22	7	12	12	5.9	62
ELAWARE																																
mington	73	1011.1	1014.4	53	34	43.5	1.0	75	22	19	8	0	10	30	64	4.86	1.25	1.34	13	3	2.0	2	11.3	WNW	--	---	--	11	8	12	5.5	--
IST. OF COLUMBIA																																
hington CO	72	------	------	57	39	47.8	2.1	79	22	23	26	0	6	--	--	3.68	.32	.95	13	2	T	T	----	---	43	NW	16	--	--	--	---	--
h. Nat'l. AP	14	1011.0	1015.3	56	38	47.1	1.8	79	22	23	27+	0	6	31	58	3.70	.67	.99	13	2	T	0	12.6	WNW	50	SW	22	10	7	14	5.8	63
LORIDA																																
lachicola CO	13	1017.9	1019.1	70	58	64.1	3.2	80	18	32	27	0	1	--	-	.84	-4.08	.50	3	1	T	T	9.0	---	28	NW	27	13	13	5	4.0	82
tona Beach	31	1018.1	1019.8	77	53	64.8	1.1	88	21+	35	9	0	0	55	75	1.84	-1.78	1.12	7	1	.0	0	10.4	SSW	*33	SSW	26	12	10	9	5.2	--
t Myers	15	1018.8	------	82	57	69.0	.4	88	20	40	30	0	0	--	--	.32	-1.86	.25	2	1	.0	0	8.6	---	*30	N	28	15	12	4	4.1	--
ksonville CO	18	------	------	76	55	65.3	1.9	87	19	33	27	0	0	--	--	1.51	-2.00	1.36	3	--	T	0	---	---	--	---	--	--	--	--	---	--
ksonville	24	1018.4	1019.5	78	53	65.3	3.0	89	21+	33	27	0	0	52	68	1.66	-1.76	1.38	3	0	T	0	9.0	WSW	32	W	22	9	16	6	5.3	73
West CO	9	1017.2	1017.9	82	69	75.7	2.0	86	26	60	30	0	0	--	-	.65	-.92	.63	3	1	.0	0	8.1	---	27	NW	28	21	9	1	3.3	90
eland	214	------	------	78	58	68.1	1.5	86	21+	39	29	0	0	--	--	2.24	-1.56	1.32	6	0	.0	0	6.9	--	--	-	--	10	11	10	5.2	56
mi CO	8	------	------	77	66	71.5	.7	85	25	48	30	0	0	--	--	.60	-1.55	.26	3	0	.0	0	12.1	--	32	N	29+	21	6	4	3.7	88
mi	8	1017.7	1018.8	80	63	71.4	.1	88	25+	49	30	0	0	62	75	.23	-2.02	.09	3	0	.0	0	10.1	SE	25	NW	29+	17	11	3	3.9	--
mi Beach	9	------	------	78	68	73.0	.8	83	26	52	29	0	0	--	--	.47	-1.82	.21	4	0	.0	0	-- -	--	--	--	--	19	7	5	--	--
ando	106	1015.4	1019.9	79	55	67.4	.7	88	19	39	29	0	0	55	72	1.59	-1.67	.85	4	1	.0	0	9.0	S	*45	WNW	22	12	9	10	5.0	--
sacola CO	13	1016.9	------	70	56	63.1	2.9	79	18	28	27	0	1	--	--	2.03	-3.97	1.80	4	1	T	T	12.7	---	24	S	21	--	-	--	--	71
lahassee	64	1016.7	1019.4	76	51	63.9	3.4	88	19	29	27	0	2	51	70	.99	-4.08	.79	2	1	.4	T	6.8	S		-	-	5	15	11	6.0	--
pa	19	1018.4	1018.8	76	56	66.0	.0	86	20	41	29+	0	0	56	75	2.65	-.47	1.28	6	1	.0	0	7.8	SW	*32	WNW	22	16	7	8	4.7	70
t Palm Beach	15	1017.8	1018.7	81	61	70.6	.6	90	22	49	29	0	0	67	77	2.05	-1.17	.93	4	0	.0	0	11.8	SE	*35	WNW	28	16	9	6	4.1	--
EORGIA																																
ens	798	989.0	------	68	43	55.2	2.5	83	13	18	27	0	6	--	--	2.61	-2.56	.83	12	4	T	0	---	---	--	-	--	11	6	14	5.7	
nta	977	976.0	1018.0	68	45	56.1	3.4	82	13+	16	27	0	6	43	67	3.27	-2.40	.95	14	4	.0	0	10.5	SW	41	SW	6	8	7	16	6.2	50
sta	143	1011.0	1017.8	72	44	57.8	1.3	88	12	22	27	0	9	45	68	1.91	-2.35	.90	8	2	.0	0	8.0	SW	33	W	22	8	5	18	6.3	
mbus	385	1004.4	1018.6	73	46	59.7	5.0	87	12	21	27	0	7	--	--	2.08	-3.73	1.06	7	1	.0	0	----	--	--	--	-	7	8	16	6.1	-
n	356	1004.0	1017.8	74	47	60.6	2.8	88	12	20	27	0	4	44	61	1.46	-3.65	.70	6	3	.0	0	9.5	SSW	30	SW	6	8	11	12	5.8	73
	637	994.7	1018.2	67	40	53.5	1.8	81	5	17	27	0	11	--	--	4.00	-1.83	1.96	14	7	T	0	----	---				8	6	17	6.5	-
nnah	48	1016.0	1018.6	75	48	61.7	2.7	90	12	26	27	1	4	50	72	.18	-3.31	.12	2	0	T	0	11.1	SW	32	NW	27+	8	14	9	5.4	78
AHO																																
e	2842	922.1	1020.5	46	27	36.2	-5.6	62	29	10	5	0	26	23	57	.39	-.95	.10	11	0	.1	T	10.8	SE	43	NW	19	5	8	18	6.6	63
o Falls	4933	847.3	1019.6	36	12	23.7	-6.3	59	29	-15	5	0	31	--	--	.20	-.25	.11	5	0	1.3	3	12.7	---	a51	WSW	22	--	--	--	-	--
W CO																																
o Falls	4780	------	------	36	12	24.1	-4.6	60	29	-14	5	0	31	--	--	.04	-.41	.03	3	--	----	--	10.2	---	a40	SSW	1+	--	-	--		--
NW CO																																
ston	1413	966.8	1019.9	45	25	35.3	-8.3	62	8	2	5	0	26	--	--	.96	-.18	.30	11	0	9.7	5	----	---	--	---	--	4	8	19	7.4	--
tello	4444	862.5	1019.5	39	21	30.0	-6.6	59	29	0	5	0	29	18	62	.49	-.64	.25	7	0	2.3	7	15.9	WSW	72	W	24	11	5	15	5.8	65
LINOIS																																
o CO	314	1003.7	------	58	40	49.3	.3	78	11	13	26	0	6	--	--	5.76	1.04	3.68	12	4	.1	T	11.2	---	42	SW	11	13	8	10	4.6	66
ago	610	991.5	1015.0	47	28	37.2	.2	70	10	5	7	0	19	24	62	1.72	-1.13	.59	11	3	5.2	3	13.7	NW	54	NW	22	11	11	9	5.1	65
ne	589	993.6	1016.6	47	26	36.0	-1.2	74	10	5	7	0	20	26	68	1.20	-1.28	.65	9	1	8.8	8	14.6	WNW	45	W	6+	12	9	10	4.9	60
ia	654	992.9	1015.9	48	28	37.8	-.5	77	10	5	26	0	20	27	65	1.76	-1.03	.84	8	3	5.6	3	12.2	---	50	NW	22	11	8	12	5.5	63
ngfield	587	992.6	1016.3	51	30	40.2	.0	80	10	6	26	0	19	30	69	1.43	-1.88	.53	10	4	4.4	3	15.0	NW	42	W	22	12	10	9	5.3	62
DIANA																																
sville	383	1001.4	1016.5	57	35	45.9	-.7	75	3	10	26	0	11	35	67	4.38	.09	2.05	11	8	.4	T	11.0	SSW	47	SW	1	8	9	14	6.3	53
Wayne	801	983.1	1014.4	48	28	37.6	.8	66	10	9	7	0	20	28	72	5.29	2.13	1.69	13	5	8.3	4	14.5	WNW	63	SW	22	10	9	12	5.8	60
anapolis	793	986.5	1015.8	51	30	40.6	.5	69	3	8	26	0	20	31	70	2.26	-1.63	.91	12	5	3.7	3	15.8	SW	56	NW	11	8	11	12	5.9	68
h Bend	768	986.1	1014.8	46	26	35.9	.2	66	10	9	7	0	20	27	73	2.38	-.57	.82	12	2	8.7	5	11.8	WNW	*38	WNW	22	9	8	14	6.0	--

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)
	Ft.	Mb	Mb.	°F	°F	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M p. h.		M. p. h.			0–3	4–7	8–10	0–10
IOWA																															
Burlington	694	990.2	1016.5	49	27	37.7	0.8	76	10	3	26	0	21	26	67	1.08	-1.73	0.50	8	1	6.7	5	11.9	WNW	54	S	14	13	7	11	5.4
Des Moines	948	984.4	1016.8	47	25	35.7	-1.3	71	10	2	26	0	23	23	64	.89	-1.14	.57	5	1	2.6	2	16.8	NW	52	NW	6	10	10	11	5.4
Dubuque	1065	975.3	1015.5	42	22	31.8	1.5	65	10+	2	7	0	25	22	69	1.54	-.71	.69	8	1	6.2	5	----	---	--	---	--	8	12	11	5.6
Sioux City	1094	973.6	1016.3	44	22	33.0	2.0	69	30	1	22	0	23	21	66	.70	-.56	.42	5	0	7.6	4	17.3	NNW	47	NW	23	11	4	16	5.8
KANSAS																															
Concordia CO	1375	964.8	-	52	28	40.0	1.6	76	10	6	26	0	19		53	.31	1.02	.18	5	0	2.2	2	9.4	---	38	NW	10	15	6	10	4.4
Dodge City	2594	925.2	1014.5	57	27	42.2	.4	78	10	3	25+	0	18	18	46	.19	-.96	.09	3	1	.9	1	17.0	NE	57	NE	31	11	9	11	5.0
Goodland	3645	885.2	1014.6	53	20	36.2	.3	75	30	1	25+	0	28	15	49	.35	-.74	.33	3	0	4.4	4	14.0	N	*54	NW	10	13	12	6	4.5
Topeka	879	980.0	1016.6	55	29	42.0	.6	82	14	5	26	0	18	27	60	.67	-1.36	.24	4	0	4.4	3	14.0	N	39	NW	10+	13	7	11	5.1
Wichita	1321	965.5	1015.4	57	31	43.8	1.5	85	10	6	26	0	16	27	56	.68	-1.06	.42	5	2	1.1	1	16.5	S	49	N	10	12	4	15	5.5
KENTUCKY																															
Lexington	979	979.9	1016.3	57	36	46.5	4.1	73	12	14	26	0	12	35	67	7.03	2.57	1.94	14	6	.3	T	14.9	SSW	--	---	--	6	4	21	6.9
Louisville	474	996.7	1016.0	58	37	47.4	1.8	75	12	12	26	0	13	35	65	5.96	1.29	1.87	12	6	T	T	10.7	NW	52	SW	22	7	10	14	6.4
LOUISIANA																															
Baton Rouge	61	1014.9	1016.6	76	53	64.5	4.2	87	16	28	27	0	2	51	67	.54	-5.28	.31	3	1	.0	0	11.2	SSW	--	---	--	7	15	9	5.5
Lake Charles	12	1015.9	1017.8	74	54	63.7	3.1	85	16	31	27	0	2	54	74	.12	-4.64	.11	2	2	.0	0	11.7	SSE	*31	SSE	20	7	9	15	6.5
New Orleans CO	9	1016.6	--	76	57	66.4	3.4	86	16	31	27	0	1	--	--	.04	-6.52	.02	3	1	T	T	7.3	---	23	S	21	9	17	5	4.8
New Orleans	3	1016.6	1018.5	76	55	65.3	3.6	87	16	30	27	0	1	55	72	.24	5.66	.23	2	1	T	0	11.7	S	*35	S	21	5	23	3	5.1
Shreveport	252	1007.1	1016.8	71	48	59.7	1.8	89	11	25	26	0	6	48	69	3.00	-1.70	2.43	8	5	.0	0	13.4	S	--	---	--	9	5	17	6.4
MAINE																															
Caribou	624	985.2	1009.4	29	11	20.0	1.7	44	31	-17	4	0	31	13	72	3.84	1.44	.87	17	1	47.1	47	13.1	WSW	*44	WNW	17	3	11	17	7.3
Portland	61	1007.4	1011.5	39	22	30.4	1.1	60	31	0	8	0	29	21	71	4.10	.07	1.15	12	2	14.7	6	12.8	W	52	SW	17	10	8	13	5.8
MARYLAND																															
Baltimore CO	14	--	--	56	38	47.1	1.8	79	22	22	27+	0	7		--	3.93	.30	1.09	13	--	----	--	----	---	--	---	--	--	--	--	---
Baltimore	146	1010.3	1015.0	55	34	41.9	1.7	79	22	18	8	0	13	30	61	3.34	-.29	.96	13	2	1.2	T	15.1	WNW	60	SW	22	11	8	12	5.5
Frederick	294		--	55	32	43.5	.2	74	16+	18	8	0	17	-		5.35	2.04	1.58	13	2	2.7	2	----	---	--	---	--	--	--	--	---
MASSACHUSETTS																															
Blue Hill Obs	629	987.8	1011.8	44	26	34.0	-.1	60	31	10	8	0	24	--	67	4.77	.90	1.25	17	0	13.7	7	19.0	WNW	51	WNW	17	9	10	12	5.6
Boston	15	1006.9	1011.7	45	30	37.6	.0	63	31+	17	8	0	16	24	62	5.42	1.99	1.72	13	0	7.0	3	17.5	W	*47	W	2	10	9	12	5.7
Nantucket	43	1011.9	1012.6	43	31	36.9	.3	53	10	19	8	0	21	30	77	3.92	-.13	1.38	12	3	3.2	2	17.9	WNW	53	SW	27	12	6	13	5.9
Pittsfield	1153			39	23	30.8	.0	59	10	8	8	0	28		--	3.58	.36	.91	18	1	15.1	5	----	---	--	---	--	--	--	--	---
MICHIGAN																															
Alpena CO	587	989.5	--	35	20	27.3	-.4	64	31	0	8	0	31	--	--	1.51	-.53	.80	14	2	8.7	7	12.7	---	38	NW	27	5	9	17	7.0
Detroit	619	986.5	1013.8	44	27	35.7	.6	63	31	10	7	0	22	25	68	2.11	-.42	.51	11	5	6.2	4	12.6	WNW	57	SW	22	11	9	11	5.6
Detroit (Willow Run)	722	984.4	1013.6	45	26	35.7	.2	66	10	9	7	0	27	25	69	2.34	-.01	.56	13	5	5.9	3	14.1	WNW	*52	SW	22	10	10	11	5.6
East Lansing CO	856	--		44	25	34.3	1.1	65	31	6	7	0	27	--	--	2.97	.40	1.13	12	3	8.5	3	7.2	---	29	SW	22	--	--	--	---
Escanaba CO	594	989.8	--	33	17	25.2	-1.0	51	9	-3	7	0	31	--	--	2.04	.26	.50	17	0	20.0	10	12.1	---	50	NW	22	7	11	13	6.4
Grand Rapids	681	988.2	1013.9	42	24	33.1	.6	65	10	5	7	0	27	25	75	2.07	-.28	.97	12	1	15.1	4	13.0	W	42	W	22	7	12	12	6.1
Marquette CO	677	985.4	-	32	17	24.8	-2.1	65	31	0	6+	0	30	-	65	3.16	1.11	1.01	19	0	29.6	26	9.6	---	34	NW	22	6	6	19	7.2
Muskegon	627	990.2	1014.3	41	25	32.6	.2	61	10	8	7	0	28	24	72	2.55	.37	1.57	11	1	17.9	4	----	---	--	---	--	7	11	13	6.4
Sault Ste.Marie	721	989.5	1013.3	29	12	20.3	-2.7	51	31	-11	8	0	31	15	78	2.71	.86	1.08	21	1	32.2	24	11.6	WNW	44	W	12	7	7	17	7.1
MINNESOTA																															
Duluth	1409	971.9	1015.0	27	6	16.5	-5.7	58	31	-21	7	0	30	9	71	1.26	-.52	.31	16	0	23.6	28	13.9	WNW	47	W	1	10	5	16	6.2
Intern'l Falls	1179	970.2	1015.7	26	4	10.8	-9.2	60	31	-31	7	0	31	6	64	.90	-.13	.30	12	0	15.6	29	9.8	---	--	---	--	10	8	13	6.0
Minneapolis	830	981.4	1016.4	36	16	25.6	-5.3	67	31	-11	7	0	27	17	70	.52	-.96	.23	10	0	4.3	6	13.8	NW	41	W	23	7	11	13	5.9
Rochester	1017	977.3	1015.8	37	17	27.0	-3.4	65	31	10	7	0	27	19	73	.95	-.60	.56	9	0	7.3	5	11.5	WNW	--	---	--	10	7	14	5.8
St. Cloud	1034	976.0	1015.8	33	10	21.3	-5.6	62	31	-16	7	0	30	14	73	.73	-.42	.35	9	0	5.6	7	10.4	WNW	--	---	--	6	10	15	6.5
MISSISSIPPI																															
Jackson	315	1005.6	1017.8	72	48	60.0	3.2	85	12+	23	27	0	6	47	67	2.14	-4.09	1.54	7	3	.0	0	10.3	SSW	56	NW	25	10	10	11	5.5
Meridian	294	1004.2	--	74	47	60.6	4.1	89	12+	20	27	0	9	--	--	1.27	-5.31	.76	4	4	.0	0	----	---	--	---	--	9	14	8	5.3
Vicksburg CO	234	1008.1		72	50	60.7	2.6	85	12+	25	27	0	3	--	--	2.89	-3.14	1.92	5	4	.0	0	10.5	---	35	W	21	7	11	13	6.1
MISSOURI																															
Columbia	778	986.8	1016.0	55	32	43.5	.7	82	10	4	26	0	15	29	62	1.49	-1.52	.51	10	3	6.2	3	12.3	NNW	34	NW	6+	13	11	7	4.6
Kansas City	741	980.7	1016.4	54	33	43.7	.1	83	10	7	26	0	13	28	58	.71	-1.80	.40	5	1	7.0	5	12.0	S	49	S	10	11	9	11	5.0
St. Joseph	809			53	29	40.6	1.3	79	10	7	25+	0	19	--	--	.37	-1.84	.21	4	1	1.0	1	----	---	--	---	--	--	--	--	---
St. Louis CO	465	995.3		55	35	45.3	.0	86	10	7	26	0	11	--	--	2.24	-1.40	1.11	6	5	3.7	3	12.4	---	39	SW	10	12	8	11	5.5
St. Louis	552	995.3	1016.3	56	34	44.9	.5	86	10	5	26	0	13	31	61	2.15	-1.27	.89	8	4	3.7	2	11.0	NW	--	---	--	12	8	11	5.4
Springfield	1265	967.5	1016.0	56	34	44.8	.1	80	10	5	26	0	11	34	69	2.52	-.64	1.73	6	2	2.6	2	15.9	SSE	36	SW	10	8	12	11	5.8
MONTANA																															
Billings	3568	888.6	1016.6	36	16	26.2	7.9	62	29	-13	5	0	26	15	63	1.60	.67	.42	15	0	18.5	13	14.3	WSW	55	NW	22	4	11	16	6.9
Glasgow CO	2090	938.4	1016.9	34	10	21.8	7.1	62	29	-28	5	0	29	11	65	.54	-.06	.18	10	0	6.9	7	9.6	WNW	--	---	--	5	5	21	7.2
Great Falls	3664	885.5	1016.7	33	13	23.0	-9.5	60	29	-20	24	0	28	12	63	1.53	.54	.53	12	0	17.1	7	20.2	SW	58	SW	18	7	9	15	6.3
Havre CO	2488	924.8	1017.2	36	12	23.5	-6.8	71	29	-14	4	0	29	11	62	.12	-.58	.06	5	0	2.8	3	10.2	---	33	SW	18	6	8	17	6.9
Helena	3893	871.3	1019.2	32	10	21.1	11.1	57	29	-30	25	0	30	10	63	1.28	.56	.38	13	0	21.6	8	10.3	W	61	SW	11	3	16	12	6.8
Kalispell	2965		--	32	14	23.4	10.3	46	7+	-17	5	0	31	-	--	.47	-.54	.13	11	0	8.4	13	----	---	--	---	--	2	8	21	8.1
Miles City	2629	929.9	1016.9	39	15	27.1	4.1	70	29	-16	5	0	29	14	--	.38	-.32	.11	8	0	3.8	4	11.0	NW	*41	WNW	22	4	9	18	7.3
Missoula	3200	901.8	1019.8	36	15	25.4	9.3	55	29	-13	5	0	31	16	67	1.16	.33	.21	15	0	13.4	5	6.7	W	37	NW	22	4	6	21	7.8
NEBRASKA																															
Grand Island	1841	940.2	1016.1	47	23	35.0	-2.6	70	8	0	21	0	26	21	60	1.07	-.21	.98	4	0	8.2	6	14.4	S	--	---	--	13	7	11	5.1
Lincoln CO	1184	--	--	49	26	37.7	-1.7	75	10	6	25	0	21	-	-	.59	-.88	.45	4	0	3.5	2	11.4	---	58	W	10	16	4	11	4.6
Norfolk	1544	959.4	1016.9	45	21	32.8	-2.1	69	8	7	22	0	26	22	66	.93	-.62	.54	7	0	9.8	6	----	---	--	---	--	13	3	15	5.3
North Omaha	1323	966.5		45	23	34.0		70	10	0	25	0	23	--	--	.91	----	.47	6	1	7.1	5	----	---	--	---	--	--	--	--	---
North Platte	2779	913.6	1015.2	48	20	34.1	-2.3	73	8+	2	25	0	29	20	61	.36	.55	.18	6	0	5.2	2	13.8	N	51	N	31	10	10	11	5.5
Omaha	978	975.3	1016.6	48	25	36.5	-1.7	72	10	4	25+	0	21	23	61	.78	-.54	.37	6	1	7.2	5	14.2	SSE	42	N	21	14	5	12	5.0
Scottsbluff	3950	876.1	1015.4	46	19	32.3	-2.6	72	30	-4	25	0	29	17	56	.39	-.49	.15	8	0	5.8	2	14.3	WNW	--	---	--	6	15	10	5.8
Valentine CO	2581	921.1		43	19	31.2	-2.5	75	30	-6	5	0	29	--	--	.26	-.99	.08	5	0	2.7	6	9.9	---	32	W	11	8	10	13	5.9
NEVADA																															
Elko	5075	845.9	1019.9	46	22	34.1	-2.0	66	29	6	5	0	27	20	60	.40	-.29	.24	4	0	T	4	7.3	WSW	*28	W	29	12	7	12	5.3
Ely	6257	808.0	1018.2	45	18	31.4	-3.9	61	29	1	6	0	28	16	54	.07	-1.22	.06	2	0	T	4	12.6	---	38	SW	9+	17	5	9	4.4
Las Vegas	2162	949.2	1014.9	69	40	54.1	-2.4	81	29	26	21	0	6	13	41	T	-.35	T	0	0	.0	0	9.1	SW	*48	NNW	20	22	8	1	2.3
Reno	4397	863.5	1019.8	55	23	38.7	-1.9	67	31	7	1	0	28	19	49	.25	-.45	.12	5	0	.2	2	7.3	WNW	61	SW	29	17	7	7	3.5
Winnemucca	4299	869.6	1019.9	51	24	37.2	-2.2	62	31	7	6	0	24	22	54	.34	-.52	.27	4	0	T	T	10.6	---	40	W	29	11	12	8	4.9
NEW HAMPSHIRE																															
Concord	339	1001.0	1011.9	41	22	31.5	-.3	62	11	9	8	0	30	21	67	3.28	.24	.65	13	1	12.9	5	7.7	NW	32	NE	22	11	6	14	6.1
Mt. Washington	6262	792.4	1004.7	18	1	9.9	-2.1	37	11	-18	8	0	31	--	92	7.67	2.12	1.82	15	1	73.0	24	47.3	W	X111	W	28	2	8	21	8.2
NEW JERSEY																															
Atlantic City CO	8	1012.0	-	51	37	43.6	2.1	66	16	21	8	0	6	--	--	4.39	.86	1.40	13	3	T	T	17.0	---	48	W	27	13	6	12	5.2

See footnotes at end of table.

CLIMATOLOGICAL DATA

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days				Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet, Hail		Average hourly speed	Prevailing direction	Fastest mile			Clear	Partly cloudy	Cloudy		
												Max. 90° F. or above	Min. 32° F. or below						.01 inch or more	With thunderstorms	Total	Max depth on ground			Speed	Direction	Date					
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F	%	In.	In.	In			In.	In.	M p h		M. p h			0–3	4–7	8–10	0–10	%
NEW JERSEY (Cont'd.)																																
Newark	11	1012.5	1013.7	50	33	41.4	0.9	72	10	19	8	0	16	27	62	4.06	0.28	1.20	13	1	3.5	2	12.6	WNW	*37	WNW	2	10	8	13	5.8	--
Trenton CO	56	1006.2	1013.5	51	34	42.1	.8	70	10	19	8	0	12	--	--	5.98	2.78	2.08	13	4	2.1	2	11.4	---	38	SW	11	10	11	10	5.0	60
NEW MEXICO																																
Albuquerque	5310	846.6	1012.9	61	34	47.4	1.4	73	14+	18	26	0	12	18	34	T	-.44	T	0	1	T	T	10.9	SE	47	NW	31	12	10	9	4.8	83
Clayton	4969	841.9	1012.9	58	25	41.6	.1	77	14	5	26	0	26	--	--	.06	-.60	.03	3	0	.6	T	---	--		-	-	15	10	6	4.1	--
Roswell	3612	891.6	1013.4	69	33	51.3	.6	85	30	17	28	0	15	16	28	.10	-.43	.10	1	0	1.1	1	11.6	-	54	W	31	16	8	7	4.3	-
NEW YORK																																
Albany	277	1008.7	1012.5	41	25	33.1	.0	62	11+	10	8	0	28	25	72	3.44	1.11	1.08	15	2	10.6	3	11.0	WNW	45	W	27	8	6	17	6.9	52
Binghamton	1601	951.6	1011.8	40	23	31.6	.5	62	10	5	8	0	27	23	73	3.00	.01	.64	17	5	10.7	2	16.3	NW	61	NW	27	4	7	20	7.7	47
Buffalo	693	983.8	1013.0	42	26	33.8	.8	67	10	11	8	0	27	26	76	4.60	1.88	.95	18	5	11.1	3	17.6	SW	54	SW	23	4	8	19	7.5	45
New York CO	10	1001.6	------	49	34	41.1	.4	70	10	18	8	0	14	--		4.65	1.09	1.74	12	3	2.7	2	14.9	---	59	W	27	10	10	11	5.5	59
New York	19	1012.0	1013.8	50	34	42.1	1.6	70	10	19	8	0	14	27	62	4.75	1.25	1.80	13	2	2.7	2	16.1	WNW	51	W	27	10	9	12	5.7	--
Rochester	543	992.6	1012.4	41	25	33.1	.1	67	10	10	8	0	28	26	78	4.25	1.29	.97	20	4	16.4	10	16.6	WSW	60	W	23	4	6	21	7.6	16
Schenectady	217	------	------	41	28	34.5	2.0	61	10	16	8	0	26	--	--	3.77	1.08	1.12	15	1	10.9	4		---	--		--	14	5	12	5.1	--
Syracuse	424	990.7	1013.3	41	26	33.5	-.7	61	11+	15	8	0	28	25	74	6.84	3.60	1.51	20	4	27.5	16	13.9	WNW	49	NW	17	5	6	20	7.5	44
NORTH CAROLINA																																
Asheville CO	2203	------	------	60	38	49.1	2.3	78	5	11	27	0	12	--	-	4.14	.57	1.12	16	6	T	T	9.6	- -	35	NW	26+	10	5	16	5.8	58
Charlotte	753	988.9	1017.0	66	42	53.8	2.8	84	5	19	27	0	8	40	64	2.30	-1.79	.70	16	5	.1	T	11.0	SW	46	SW	22	7	8	16	6.6	56
Greensboro	891	984.9	1017.3	63	38	50.4	2.2	79	5	17	27	0	10	37	65	2.33	1.32	.37	17	2	T	0	8.4	SW	38	SW	22	8	6	17	6.5	62
Hatteras CO	4	1015.9	1016.8	62	49	55.5	2.8	73	22	29	27	0	1	47	74	3.72	-.17	1.21	11	5	.0	0	16.0	SSW	46	W	22	8	5	18	6.4	55
Raleigh	438	1000.6	1016.6	66	41	53.5	3.4	81	4	20	27	0	7	38	61	1.56	-2.04	.40	11	4	.0	0	10.6	SW	35	SSW	22	9	6	16	6.3	72
Wilmington	30	1016.3	------	70	47	58.3	3.6	84	5	24	27	0	3	--	--	2.37	-1.08	1.19	7	3	.0	0	12.9	---	40	SW	22	10	12	9	5.2	72
Winston-Salem	967	981.2	1016.8	62	39	50.9	2.4	79	12+	17	27	0	8	37	63	3.01	-.82	.56	17	1	T	0	11.6	WSW	*40	SW	22	8	5	18	6.4	--
NORTH DAKOTA																																
Bismarck	1650	953.6	1016.3	36	11	23.4	-3.3	73	30	-17	5	0	31	13	66	.26	-.50	.13	6	0	2.7	3	13.0	WNW	54	NW	23	7	10	14	6.6	62
Devils Lake CO	1471	960.0	------	25	4	14.5	-8.1	61	30	-20	6	0	30	--	--	1.27	.54	.43	14	0	16.6	8	9.3	- -	36	N	23	7	6	18	7.0	63
Fargo	895	980.4	1016.7	28	6	16.8	-8.5	60	30	-18	6	0	29	11	75	.63	-.26	.17	10	0	7.4	7	14.9	NNW	56	N	23	6	6	19	7.2	66
Williston CO	1877	945.5	1016.1	32	11	21.0	-5.5	65	29	-20	5	0	28	12	67	.42	-.33	.19	9	0	4.0	5	8.5	---	36	W	13	6	9	16	7.0	59
OHIO																																
Akron	1210	975.8	1014.9	48	27	37.1	.6	68	12	10	8	0	24	27	70	4.70	1.54	1.15	16	5	6.2	4	14.6	SW	--	---	--	10	4	17	6.2	--
Cincinnati Obs.	761	------	------	55	35	45.0	1.7	75	12	14	26	0	15	--	--	5.01	.94	1.43	16	6	2.1	1	8.3	---	45	SW	22		--	--	---	60
Cincinnati	869	983.3	1015.7	54	34	44.3	2.6	72	12	13	26	0	17	31	63	5.05	1.01	1.37	15	6	2.1	T	12.2	SW	*52	SW	22	6	6	19	6.8	--
Cleveland	787	985.7	1014.1	49	29	38.6	1.8	68	12	12	8	0	22	28	69	5.59	2.70	1.43	16	7	13.9	7	13.4	WNW	68	SW	22	11	3	17	6.0	59
Columbus CO	724	------	------	52	33	42.1	1.0	71	12	15	27+	0	15	-		3.33	.11	1.24	16	0	3.8	1	---	--	-	---	--	--	--	--	---	--
Columbus	815	984.6	1015.3	52	30	41.4	1.6	73	12	15	28+	0	21	31	70	3.63	.20	1.21	15	4	3.9	1	11.8	SSW	63	NW	11	8	5	18	6.7	57
Dayton	1002	978.0	1015.1	51	31	40.8	1.0	68	12	11	27	0	17	30	69	3.22	-.02	1.06	14	6	7.4	3	12.2	WNW	61	SW	22	9	5	17	6.3	64
Portsmouth CO	715	989.4	------	57	33	44.8	1.8	76	12	16	26	0	20	--	-	4.27	.01	1.30	13	5	.6	1	8.7	---	68	SW	22	5	6	12	6.5	--
Sandusky	603	990.8	------	47	30	38.9	1.4	68	10	15	8	0	17	--	--	4.55	1.66	.93	15	7	12.1	10	10.5	---	55	SW	22	13	7	11	5.2	56
Toledo	676	987.5	1014.1	47	27	36.7	.9	65	10	11	7	0	21	27	72	2.17	-.73	.47	14	3	5.1	4	13.0	W	56	SW	22	10	8	13	5.8	57
Youngstown	1178	970.5	1014.2	47	26	36.6	-.1	68	12	9	8+	0	25	28	73	[illegible].44	1.99	1.22	17	6	10.6	2	13.0	W	*52	SW	22	9	3	19	6.5	--
OKLAHOMA																																
Oklahoma City	1280	971.6	1015.7	63	36	49.5	-.2	89	10	13	26	0	11	32	58	1.50	.59	1.00	6	1	3.2	3	16.3	SSE	52	SW	10	10	8	13	5.6	67
Tulsa	672	990.5	1015.5	63	39	50.7	.8	91	10	14	26	1	8	34	59	2.15	.46	1.23	7	4	3.5	3	14.4	SSE	42	W	10	9	9	13	5.5	62
OREGON																																
Astoria	8	1020.7	1021.6	48	35	41.4	-3.9	61	27	26	5	0	12	35	80	8.64	1.39	2.00	21	0	T	T	9.0	W	--	---	--	5	6	20	7.5	--
Burns CO	4140	873.7	1019.7	46	22	33.6	-5.3	59	31	4	5	0	30	20	60	.48	-.29	.36	6	0	1.3	1	----	---	--	---	--	7	6	18	6.5	--
Eugene	361	1008.8	1023.0	51	33	41.9	-4.8	63	7+	23	5	0	16	--	--	3.04	-.82	.72	16	0	T	T	----	---	--	---	--	6	7	18	7.1	--
Meacham	4050	------	------	35	19	27.2	-6.8	50	8	-4	5	0	30	--	--	3.59	-.82	.80	22	0	35.7	46	----	---	--	---	--	4	6	21	7.7	--
Medford	1312	973.6	1022.2	56	32	44.0	-3.2	71	7+	19	15+	0	15	32	68	1.03	-.49	.50	10	0	3	T	4.6	NNW	*29	NW	12	8	4	19	6.7	--
Pendleton	1492	965.5	1020.3	48	29	38.8	-6.4	66	8	10	5	0	21	24	58	.62	-.56	.16	14	1	2.8	1	12.6	W	*52	W	22	6	9	16	6.8	--
Portland	21	1016.3	1022.0	49	34	41.5	-5.1	60	27+	19	5	0	14	33	73	3.06	-.41	.72	18	0	.8	1	9.5	SSW	43	S	12	5	5	21	7.6	30
Roseburg	505	1004.1	1023.0	53	33	42.9	---	69	7	20	20	0	17	--	--	3.52	.59	.85	15	0	.1	T	4.9	---	23	S	29	6	5	20	7.1	40
Salem	195	1014.6	1022.1	50	33	41.4	-5.4	61	7	22	5+	0	14	33	75	3.66	-.53	.79	17	0	.7	T	10.0	S	--	---	--	5	10	16	7.1	--
Sexton Summit CO	3836	------	------	42	29	35.6	-3.7	59	7+	17	4	0	21	--	--	2.44	-.52	.53	15	0	13.4	14	---	---	--	---	--	10	1	20	6.6	--
PENNSYLVANIA																																
Allentown	376	999.9	1014.3	49	29	38.9	1.0	70	10	15	8	0	22	27	65	4.46	1.27	1.50	14	2	4.6	3	14.9	WNW	--	-	--	10	9	12	5.5	--
Harrisburg	335	1000.3	1014.4	52	33	42.1	1.3	71	10	16	8	0	17	25	56	3.97	1.10	1.35	15	3	2.6	2	11.1	W	68	W	7	9	8	14	5.9	67
Philadelphia CO	26	------	------	52	37	44.4	.9	71	10	21	8	0	8	--	--	----	----	----	--	--	--	-	-	--		--	-	-	-	-	--	--
Philadelphia	13	1009.6	1014.1	53	36	44.4	2.1	73	10	20	8	0	9	29	60	4.80	1.48	1.67	11	3	2.6	2	12.9	WNW	*56	NW	27	10	8	13	5.7	65
Pittsburgh CO	749	------	------	54	34	43.6	2.0	74	12	17	26+	0	16	--	--	4.49	1.08	1.47	16		3.6	-	----	---	-	-	-	-	--	--	---	44
Pittsburgh	1151	983.6	1014.3	52	29	40.5	1.9	72	12	12	8	0	21	28	64	3.69	.49	1.35	15	5	3.2	1	14.0	WSW	*41	WSW	22	[illegible]	7	16	6.5	53
Reading CO	266	1001.8	1014.2	51	34	42.6	1.0	72	10	19	8	0	11	--		4.58	1.27	2.01	14	3	2.6	3	14.5	--	54	W	27	10	9	12	5.9	59
Scranton CO	746	983.8	1013.5	46	29	37.6	.3	68	10	12	8	0	21	--	--	2.92	.17	.80	14	1	2.9	2	8.3		31	NW	7	11	7	13	5.8	49
Williamsport	527	994.2	------	50	29	39.2	.9	70	10	13	8	0	21	--	--	4.19	.85	.87	18	—	5.7	1	——		—	-	--	9	10	12	5.8	--
RHODE ISLAND																																
Block Island	110	1007.8	1012.1	44	32	37.5	.4	55	22	20	8	0	16	--	--	4.17	.63	1.20	13		1.9	1				-		9	9	13	6.1	-
Providence	55	1006.3	1011.5	46	28	37.1	.3	61	31+	14	8	0	22	25	65	5.35	1.77	2.12	15	3	4.6	1	13.0	WSW	*43	SSW	11	11	8	12	5.5	59
SOUTH CAROLINA																																
Charleston CO	[illegible]	------	------	70	52	60.9	2.8	85	13	28	27	0	1	--	--	.47	-2.91	.40	4	1	T	0	11.0		38	NW	26	9	8	14	6.0	78
Charleston	41	1016.6	1018.4	73	48	60.3	3.1	88	13+	26	27	0	3	47	68	1.06	-2.56	.99	4	1	.0	0	13.2	SSW	—	—	—	7	11	[illegible]	6.1	--
Columbia	217	1008.8	1017.3	71	45	57.9	2.7	88	12	23	27	0	7	44	67	2.00	-1.79	.68	7	4	.0	0	10.6	SW	32	W	22	11	6	14	5.8	62
Florence	146	1011.3	------	72	45	58.4	3.0	87	13+	22	27	0	5	--	--	1.22	-2.32	.55	8	1	.0	0	----	-	-			11	9	11	5.5	
Greenville	1018	979.0	1016.7	64	42	53.0	1.5	80	12	16	27	0	6	39	66	3.15	-1.36	1.20	14	4	.0	0	11.1	SW	63	NW	22	10	[illegible]	16	6.2	55
Spartanburg	801	------	------	64	42	53.1	1.4	80	12+	18	27	0	6	--	--	2.19	-2.30	.49	11	5	.0	0	11.3	---	35	SW	22	-	-		---	-
SOUTH DAKOTA																																
Huron	1282	967.2	1016.0	40	17	28.4	-3.3	73	30	-5	5	0	28	19	70	.14	-.95	.07	5	0	2.8	10	13.7	NNW	65	NW	11	7	9	15	6.4	56
Rapid City	3165	898.7	1014.9	41	16	28.6	-2.7	63	9	-7	25	0	29	15	60	.63	-.43	.14	10	0	6.4	2	13.2	NNW	56	W	11	8	11	12	5.8	60
Sioux Falls	1420	962.8	1016.0	41	18	29.4	-2.6	67	30	-1	25	0	27	17	62	.34	-1.01	.16	9	0	5.3	3	14.0	NW	*37	NW	23	10	7	14	5.9	--
TENNESSEE																																
Bristol	1519	961.8	------	60	32	48.1	1.4	77	5	12	27	0	12	--	--	9.56	5.79	2.21	18	5	T	0	---	---	--	---	--	6	6	19	6.8	--
Chattanooga	670	990.1	1018.0	65	42	53.5	2.8	81	12	17	27	0	10	41	69	5.02	-1.03	2.44	15	5	T	0	10.2	SSW	47	W	22	8	6	17	6.5	61
Knoxville	950	981.8	1017.6	63	42	52.3	2.9	77	5	14	27	0	10	39	64	5.38	.55	1.17	13	8	T	0	10.8	WSW	48	SW	1	9	4	18	6.5	49
Memphis CO	271	------	------	61	44	52.9	.5	80	11	16	26	0	6	--	--	7.26	2.08	3.14	14	--	T	T	----	---	--	---	--	--	--	--	---	--
Memphis	263	1002.4	1017.3	63	43	53.0	1.0	81	11	18	26	0	6	42	69	7.55	1.96	3.59	11	7	T	T	13.2	SSW	41	S	10	7	5	19	6.9	56
Nashville	577	997.2	------	61	40	50.7	.9	79	4	16	27	0	11	40	70	9.87	4.59	4.65	16	9	4	T	----	---	45	W	22	8	6	17	6.6	62
Oak Ridge CO	905	983.1	------	61	39	49.9	2.4	78	5	13	27	0	11	--	--	7.92	2.23	1.62	14	6	T	T	5.7	---	35	SW	22	8	4	19	6.9	--
TEXAS																																
Abilene	1759	952.9	1014.4	72	43	57.5	2.4	92	11	19	26	2	7	34	47	.60	-.52	.45	4	4	T	T	15.9	S	45	NW	31	11	8	12	5.3	70
Amarillo	3590	886.6	1012.9	65	30	47.7	1.6	82	14+	9	26	0	14	13	30	.33	.71	.47	1	0	.1	T	15.2	SW	50	W	19	13	8	10	5.0	78
Austin	615	994.6	1016.6	74	51	62.4	2.1	92	11	26	26	1	[illegible]	48	66	.83	-1.71	.59	4	3	T	0	12.8	S	42	N	25	6	6	19	6.7	53

See footnotes at end of table.

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet, Hail		Average hourly speed	Prevailing direction	Fastest mile			Clear	Partly cloudy	Cloudy		
												Max. 90° F. or above	Min. 32° F. or below						.01 inch or more	With thunderstorms	Total	Max. depth on ground			Speed	Direction	Date					
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
TEXAS (Cont'd.)																																
Brownsville	16	1012.5	1015.1	80	62	70.9	2.8	95	21	39	26	1	0	59	73	0.18	-0.96	0.13	4	0	.0	0	16.2	SSE	38	NE	21	9	10	12	5.7	
Corpus Christi	40	1014.6	1015.8	76	58	67.2	2.9	93	21	35	26	1	0	57	75	.07	-1.56	.07	1	0	.0	0	16.7	SSE	42	N	26	7	9	15	6.4	
Dallas	487	997.6	1016.4	70	47	58.3	.9	94	11	23	26+	3	6	43	63	1.70	-1.11	.64	5	2	.0	0	12.8	S	47	SW	31	8	11	12	5.8	
Del Rio	1091	980.0	1014.5	78	51	64.7	1.8	97	11	27	28	4	2	43	51	.71	-.22	.70	2	1	T	T	10.1	---	42	NW	21	9	7	15	6.1	
El Paso	3920	885.2	1013.5	69	42	55.8	1.3	78	9+	23	27	0	5	21	28	.18	-.10	.10	4	0	.8	1	15.0	WSW	49	W	21	10	9	12	5.2	
Fort Worth	544	995.3	1016.5	70	46	57.9	2.2	94	10	23	26+	2	7	42	61	2.15	-.52	1.34	6	3	T	T	14.7	S	*32	WNW	20+	10	9	12	5.5	
Galveston CO	7	------	------	69	58	63.2	1.4	82	21	33	27	0	0	--	--	.21	-2.89	.14	2	--	.0	0	13.5	---	50	NW	21	--	--	--	---	
Galveston	5	1015.2	1017.5	69	57	63.4	1.6	83	21	33	26	0	0	57	81	.39	-2.87	.26	2	1	.0	0	14.0	S	--	---	--	8	15	8	5.6	
Houston CO	41	1011.9	------	74	56	65.0	2.4	87	25	30	26	0	2	--	--	.63	-2.47	.46	5	2	.0	0	11.8	---	40	NW	21	5	13	13	6.3	
Houston	50	1010.8	1017.1	75	55	64.7	3.1	88	25	31	26+	0	2	53	71	.93	-1.85	.76	4	2	.0	0	15.5	SSE	--	---	--	6	10	15	6.7	
Laredo	500	998.6	1013.9	83	58	70.5	2.1	97	11+	35	28	15	0	52	57	.01	-.89	.01	1	1	.0	0	11.6	SSE	*43	NE	25	10	13	8	5.2	
Lubbock	3243	901.1	1013.5	67	33	50.1	.4	83	30	14	27	0	12	24	40	.03	-.77	.03	1	0	2.1	1	17.4	WSW	*52	WNW	31	13	9	9	4.5	
Midland	2854	914.7	1013.8	72	41	56.6	.9	87	11	21	26	0	6	23	34	.01	-.62	.01	1	1	.0	0	10.4	WSW	*30	ENE	25	14	6	11	5.1	
Port Arthur	16	1016.3	1017.7	73	54	63.8	3.5	85	16	30	27	0	2	55	76	.06	-3.94	.05	2	0	.0	0	14.9	S	50	NW	21	6	9	16	6.5	
San Angelo	1903	947.5	1014.8	73	45	59.3	1.1	92	11	22	26	3	5	32	43	.09	-.86	.09	1	2	.0	0	13.2	WSW	*48	WNW	31	10	11	10	5.2	
San Antonio	792	990.5	1015.5	76	51	63.4	2.0	91	11+	29	28	2	3	48	63	1.40	-.72	1.28	4	1	T	0	9.7	S	57	NE	25	10	3	18	6.3	
Victoria	110	1011.5	1016.0	76	55	65.4	1.5	92	25	32	26	1	1	53	68	.72	-1.92	.63	5	3	T	0	12.2	---	%57	W	31	6	12	13	6.4	
Waco	500	997.3	1016.0	72	48	60.0	1.6	93	11	25	26	2	5	47	66	3.20	.26	2.69	5	6	T	T	15.8	S	--	---	--	9	6	16	6.2	
Wichita Falls	1027	977.7	1015.0	69	42	55.2	2.2	92	10	19	26	1	8	35	52	1.17	-.44	.71	4	3	T	T	12.9	S	*35	NNW	25	11	8	12	5.2	
UTAH																																
Milford	5028	843.9	1017.9	52	24	37.9	-1.3	67	29	6	21	0	28	--	--	.13	-.93	.13	1	0	1.0	2	----	---	--	---	--	13	12	6	4.4	
Salt Lake City	4220	867.9	1018.7	47	27	36.7	-4.4	67	29	15	5+	0	24	22	56	.20	-1.46	.06	7	0	.6	1	8.9	SSE	34	S	29	9	8	14	5.7	
VERMONT																																
Burlington	331	999.1	1011.7	36	21	28.3	-1.0	52	31	3	8	0	30	18	66	3.27	1.08	.58	15	1	21.8	6	12.0	S	38	S	22	4	6	21	8.0	
VIRGINIA																																
Lynchburg	947	981.7	-- --	59	38	48.4	2.0	75	5+	18	27+	0	8	--	--	4.37	.80	.95	19	6	T	0	9.7	---	42	W	22	7	9	15	6.5	
Norfolk	26	1014.7	1016.0	63	42	52.4	3.3	81	22	23	27	0	4	39	64	3.96	.69	1.21	14	5	T	0	12.5	SW	54	W	22	9	3	19	6.5	
Richmond	162	1009.7	1016.1	62	39	50.2	2.7	80	22	21	27	0	8	34	64	2.66	-.76	1.04	14	4	.0	0	9.3	SW	38	NW	26	7	9	15	6.2	
Roanoke	1174	973.8	1016.2	59	38	48.3	2.0	75	5+	17	26	0	8	33	62	4.84	1.65	.63	18	4	1.0	T	10.8	WNW	--	---	--	7	8	16	6.4	
WASHINGTON																																
Olympia	190	1012.9	1020.7	47	31	38.9	-4.8	63	27	13	5	0	17	31	75	4.76	.26	.84	16	0	10.5	3	9.0	SSW	*31	WSW	3	2	9	20	8.0	
Seattle CO	14	------	------	47	36	41.6	-5.4	60	27	22	5	0	4	--	--	1.73	-1.33	.49	17	0	.5	T	11.3	---	49	SW	12	3	8	20	8.1	
Seattle	14	1019.6	1020.6	--	--	----	---	--	--	--	--	--	--	32	71	----	----	----	--	--	----	--	9.3	SSW	--	---	--	--	--	--	---	
Seattle-Tacoma	379	1006.1	1020.6	46	32	39.2	-5.3	64	27	11	4	0	13	32	80	3.25	-.15	.46	16	1	10.2	5	13.2	SW	--	---	--	2	8	21	8.1	
Spokane	2357	947.9	1018.5	39	23	31.2	-6.9	53	8	-3	4	0	30	19	62	.79	-.55	.26	8	0	5.1	7	10.8	SW	54	SW	22	5	11	15	6.8	
Stampede Pass CO	3958	877.8	1019.8	28	19	23.7	-7.0	51	7	2	4+	0	31	—	--	19.54	8.94	3.03	24	0	154.8	164	----	---	--	---	--	4	3	24	8.4	
Tatoosh CO	101	1016.3	1019.7	44	36	39.8	-4.9	50	27	25	4	0	6	34	78	7.37	-.45	2.73	19	0	7.3	2	16.1	E	59	SW	12	4	6	21	8.1	
Walla Walla CO	949	983.4	1020.0	49	32	40.6	-6.2	67	7	13	5	0	16	--	—	.59	-.93	.27	7	1	.1	T	8.0	---	34	SW	22	5	9	17	7.1	
Yakima	1061	979.7	1019.8	49	25	37.1	-6.6	64	8	7	5	0	27	22	56	.69	.23	.38	4	0	3.6	4	7.9	W	--	---	--	11	4	16	5.6	
WEST VIRGINIA																																
Charleston	950	979.6	1015.7	58	36	47.0	2.1	75	12	16	27+	0	15	33	60	6.52	2.36	2.52	16	7	.2	T	11.6	SW	*46	NW	11	4	8	19	7.2	
Elkins	1970	------	------	54	29	41.7	2.4	73	12	11	26	0	21	31	--	5.58	1.79	1.13	17	5	1.0	1	10.7	WSW	*46	NW	11	5	10	16	6.8	
Huntington	565	------	------	59	37	48.1	.9	76	12	18	27+	0	13	--	--	5.92	1.84	1.92	13	0	T	T	----	---	--	---	--	--	--	--	---	
Parkersburg CO	615	------	- ----	56	34	45.0	1.4	77	12	16	26	0	16	--	--	4.26	.72	.95	16	6	2.7	2	7.8	---	35	NW	11	7	9	15	6.3	
WISCONSIN																																
Green Bay	689	990.5	1015.9	36	18	26.8	-1.7	59	31	-4	7	0	31	17	69	1.40	-.36	.80	10	0	10.3	8	12.6	S	56	W	2	9	6	16	5.7	
La Crosse	652	989.8	1015.6	38	19	28.5	-3.1	67	31	-8	7	0	27	19	66	1.18	-.68	.66	8	0	8.8	6	11.8	NW	*37	W	23	10	8	13	6.0	
Madison	857	978.3	1014.9	41	21	30.6	-1.9	66	31	-6	7	0	28	21	69	.96	-.87	.37	7	1	7.1	5	12.2	WNW	45	NW	22	12	8	11	5.4	
Milwaukee	675	989.2	1014.9	41	23	31.9	-1.4	64	31	-1	7	0	26	21	67	1.05	-1.14	.50	8	1	4.4	2	13.9	WNW	32	W	12	10	8	13	5.5	
WYOMING																																
Casper	5322	832.7	1014.8	37	15	25.9	-6.5	55	29	-15	25	0	28	13	57	.99	-.14	.32	9	0	17.9	5	21.1	SSW	*63	SW	11	11	7	13	5.5	
Cheyenne	6131	806.3	1014.4	41	17	28.7	-3.1	61	30	-7	25	0	28	14	56	.57	-.65	.26	10	0	8.8	3	18.0	W	66	SW	11	10	11	10	5.3	
Lander	5563	831.4	1016.2	39	13	26.1	-5.2	56	29	-10	25	0	31	12	56	.67	-.47	.27	7	0	12.6	12	8.4	---	60	SW	11	14	8	9	4.5	
Sheridan	3942	881.8	1017.8	36	10	22.9	-8.7	54	9+	-20	5	0	30	--	--	2.72	1.35	.60	16	0	29.1	13	10.0	WNW	65	SW	10	5	14	12	6.8	
PACIFIC AREA																																
Canton Island	9	1008.8	1009.3	86	78	81.9	-1.2	88	23	73	23	0	0	74	79	2.02	.10	1.48	7	0	.0	0	----	---	--	---	--	3	19	9	6.1	
Hilo	31	1014.2	1015.5	77	62	69.2	-1.6	86	22	56	26	0	0	62	79	9.16	-6.56	4.03	18	4	.0	0	7.5	SW	*32	S	22	0	10	21	8.2	
Honolulu	7	1015.6	1016.3	77	64	70.5	-2.5	81	3	55	17	0	0	60	71	4.36	2.06	3.53	8	1	.0	0	10.2	ENE	35	NE	10	5	15	11	6.1	
Koror CO	94	1006.1	1009.8	88	74	81.0	.1	90	17+	71	6	2	0	75	82	2.46	-5.22	.50	16	0	.0	0	----	---	--	---	--	2	15	14	7.2	
Lihue	115	1011.2	1016.4	77	61	69.0	-1.6	81	3	51	25	0	0	60	74	3.72	-.35	2.35	16	2	.0	0	12.2	ENE	26	N	6+	4	17	10	6.5	
Ponape CO	112	1003.7	1009.2	87	74	80.3	-1.3	92	26	70	19+	4	0	74	83	16.72	5.36	3.93	22	3	.0	0	----	---	--	---	--	0	6	25	8.5	
Truk (Moen Island)	8	1008.8	1009.3	86	78	81.6	.3	88	3+	73	25	0	0	75	79	4.88	-1.75	2.03	15	1	.0	0	----	---	--	---	--	0	6	25	8.9	
Wake Island	11	1014.2	1014.9	81	72	76.2	-1.7	85	6	67	24	0	0	69	77	5.58	4.18	2.72	20	0	.0	0	19.3	ENE	--	---	--	9	13	9	5.4	
Yap CO	53	1008.1	1010.1	87	76	81.4	-.1	90	22	73	5+	1	0	75	80	2.22	-2.49	.55	18	0	.0	0	----	---	--	---	--	0	11	20	8.3	
Majuro	10	1007.8	1008.1	85	76	80.4	---	87	3+	72	19	0	0	—	—	18.51	----	4.38	18	1	.0	0	----	---	--	---	--	1	10	20	7.7	

Data from airport unless otherwise specified. CO indicates data from city office.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.

+ And also on a later date or dates.

% Peak gust.

a Maximum hourly average.

HEATING DEGREE DAYS

Table 3

(Base 65°F.)

MARCH 1955

State and station	Current season		Normals July through this month
	This month	Period July through this month	
ALABAMA			
Birmingham	286	2634	2622
Mobile	169	1627	1565
Montgomery	210	2184	2057
ARIZONA			
Flagstaff	923	6114	6161
Phoenix (CO)	111	1315	1430
Phoenix	117	1396	1624
Prescott	608	3902	3984
Tucson	175	1648	1692
Winslow	607	4224	4215
Yuma	67	1025	937
ARKANSAS			
Ft. Smith	419	2914	3037
Little Rock	388	2787	2842
Texarkana	300	2357	2278
CALIFORNIA			
Bakersfield	242	2204	1989
Bishop	596	4153	3725
Blue Canyon	809	4605	4523
Burbank	197	1394	1549
Eureka (CO)	588	3729	3543
Fresno	337	2652	2344
Los Angeles (CO)	142	1034	1235
Los Angeles	178	1259	1653
Mt. Shasta (CO)	785	5118	4833
Oakland	386	2636	2550
Red Bluff	336	2620	2318
Sacramento (CO)	319	2555	2314
Sacramento	338	2707	2490
Sandberg (CO)	582	3610	3491
San Diego	163	1065	1283
San Francisco (CO)	311	2521	2362
San Francisco	383	2857	2666
San Jose	313	2218	1998
Santa Maria	365	2458	2277
COLORADO			
Alamosa	1039	7082	7317
Colorado Springs	904	5295	5317
Denver	878	5115	5256
Grand Junction	816	5507	5226
Pueblo	774	4781	5033
CONNECTICUT			
Bridgeport	810	4697	5048
Hartford	874	5215	5379
New Haven	856	4931	5146
DELAWARE			
Wilmington	860	4383	4398
DIST. OF COLUMBIA			
Washington (CO)	526	3816	3864
Washington	549	3876	3923
FLORIDA			
Apalachicola (CO)	133	1306	1274
Daytona Beach	117	1019	857
Fort Myers	32	450	405
Jacksonville (CO)	123	1219	1099
Jacksonville	129	1333	1220
Key West (CO)	0	77	77
Miami (CO)	15	314	173
Int. Airport, Hialeah	[illegible]	199	178
Miami Beach	4	118	123
Orlando	79	780	650
Pensacola (CO)	162	1456	1390
Tallahassee	168	1617	1481
Tampa	74	734	674
West Palm Beach	15	272	248
GEORGIA			
Athens	317	2758	2657
Atlanta	304	2695	2673
Augusta	264	2471	2076
Columbus	230	2324	2299
Macon	214	2128	1987
Rome	364	3155	2952
Savannah	185	1980	1667
IDAHO			
Boise	887	5544	5096
Lewiston	912	5095	4785
Pocatello	1076	6685	5962
ILLINOIS			
Cairo (CO)	492	3458	3527
Chicago (CO)	848	4963	
Chicago	854	5145	5516
Chicago University	880	5154	
Moline	891	5612	5667
Peoria	836	5229	5419
Springfield	762	4831	5086
INDIANA			
Evansville	586	4071	4013
Ft. Wayne	840	5265	5492
Indianapolis	751	4883	4973
South Bend	893	5517	5683
IOWA			
Burlington	837	5343	5463
Des Moines	902	5649	5762
Dubuque	1023	6296	6385
Keokuk (CO)	766		
IOWA (Cont'd.)			
Sioux City	985	5957	6256
KANSAS			
Concordia (CO)	767	4692	4816
Dodge City	703	4318	4561
Goodland	883	5348	5534
Topeka (CO)	702	4401	4499
Topeka	709	4500	4731
Wichita	654	4042	4183
KENTUCKY			
Lexington	569	4220	4456
Louisville	542	3982	4055
Pikeville (CO)	440	3611	
LOUISIANA			
Baton Rouge	165	1537	1547
Lake Charles	163	1360	1503
New Orleans (CO)	127	1110	1156
Int.Airport,Moisant	142	1283	1286
Shreveport	249	2008	2056
MAINE			
Caribou	1388	8142	8551
Greenville (CO)	1291	7658	
Portland	1065	6175	6477
MARYLAND			
Baltimore (CO)	549	3791	3804
Baltimore	620	4323	4289
Frederick	660	4596	4380
MASSACHUSETTS			
Blue Hill Obs.	963	5562	
Boston	841	4804	4979
Nantucket	863	4693	4927
Pittsfield	1054	6437	6563
MICHIGAN			
Alpena (CO)	1162	6524	6739
Detroit	900	5343	5535
Detroit (Willow Run)	900	5419	5618
East Lansing (CO)	943	5628	
Escanaba (CO)	1226	6826	7216
Grand Rapids (CO)	939	5431	5622
Grand Rapids	982	5791	6089
Marquette (CO)	1241	6900	7074
Muskegon	1000	5749	5981
S. Ste. Marie	1379	7608	7906
MINNESOTA			
Duluth (CO)	1474	8163	8086
Duluth	1500	8338	8439
Internat. Falls	1674	9177	9158
Minneapolis	1211	6958	6944
Rochester	1171	7025	7105
St. Cloud	1346	7793	7793
MISSISSIPPI			
Jackson	242	2186	2121
Meridian	239	3321	2239
Vicksburg (CO)	224	1944	1929
MISSOURI			
Columbia	663	4346	4638
Kansas City	657	4286	4477
St. Joseph	749	4844	4869
St. Louis (CO)	611	4001	4098
St. Louis	622	4147	4290
Springfield	620	4086	4264
MONTANA			
Billings	1199	5878	6119
Glasgow (CO)	1333	7150	7668
Great Falls	1297	6198	6409
Havre (CO)	1279	6610	7178
Helena	1357	7104	7000
Kalispell	1286	7042	6810
Miles City	1169	6363	6889
Missoula	1221	6869	6723
NEBRASKA			
Grand Island	924	5577	5654
Lincoln (CO)	839	5196	5284
Norfolk	992	5882	6253
North Platte	950	5961	5755
Omaha	880	5347	5564
Scottsbluff	1006	5865	5888
Valentine (CO)	1041	6034	6161
NEVADA			
Elko	952	6836	6162
Ely	1034	6816	6186
Las Vegas	336	2601	2333
Reno	808	5448	5034
Tonopah	764	5437	4946
Winnemucca	855	6192	5413
NEW HAMPSHIRE			
Concord	1031	6204	6554
Mt. Washington Obs.	1708	11164	
NEW JERSEY			
Atlantic City (CO)	658	4072	4060
Newark	723	4439	4643
Trenton (CO)	703	4418	4495
NEW MEXICO			
Albuquerque	538	3865	4030
Clayton	719	4351	4510
Roswell	418	3232	3211
NEW YORK			
Albany	982	5907	6069
Binghamton	1030	6317	6459
Buffalo	959	5567	5815
New York (CO)	733	4362	4423
La Guardia Field	703	4200	4391
Rochester	984	5773	5905
Schenectady	940	5661	
Syracuse	970	5799	5666
NORTH CAROLINA			
Asheville (CO)	491	3844	3677
Asheville	514	4106	
Charlotte	356	2997	3004
Greensboro	452	3629	3519
Hatteras (CO)	291	2382	2196
Raleigh	372	3363	3126
Wilmington	241	2453	2212
Winston-Salem	438	3515	3440
NORTH DAKOTA			
Bismarck	1283	7419	7905
Devils Lake (CO)	1564	8380	8659
Fargo	1487	8062	8148
Grand Forks	1637	8633	
Pembina	1735	8415	
Williston (CO)	1359	7393	7907
OHIO			
Akron	858	5434	5381
Cincinnati (CO)	553	3923	4110
Cincinnati	633	4483	4631
Cleveland	812	4990	5206
Columbus	728	4828	4960
Dayton	742	4890	4944
Sandusky (CO)	805	4919	5088
Toledo	869	5320	5534
Youngstown	871	5482	5344
OKLAHOMA			
Oklahoma City	491	3265	3422
Tulsa	461	3098	3367
OREGON			
Astoria	728	4143	3957
Burns (CO)	965	6274	5858
Eugene	706	4174	3961
Meacham	1165	6652	6317
Medford	643	4166	3890
Pendleton	804	4645	4570
Portland (CO)	686	3613	3527
Portland	724	4002	3901
Roseburg	676	4053	
Salem	724	4176	3826
Sexton Summit (CO)	903	5381	4876
PENNSYLVANIA			
Allentown	804	5085	5196
Harrisburg	705	4648	4693
Philadelphia (CO)	632	4019	4061
Philadelphia	632	4146	4360
Pittsburgh (CO)	656	4427	4496
Pittsburgh	749	5045	5188
Reading (CO)	688	4434	4515
Scranton (CO)	844	5265	5300
Williamsport	793	5144	5215
RHODE ISLAND			
Block Island	843	4606	4809
Providence	861	4986	5239
SOUTH CAROLINA			
Charleston (CO)	169	1791	1726
Charleston	197	2034	1910
Columbia	261	2557	2352
Florence	250	2426	2424
Greenville	377	3015	2867
Spartanburg	373	3002	2866
SOUTH DAKOTA			
Huron	1130	6821	6985
Pierre	1099	6376	
Rapid City	1119	6002	6415
Sioux Falls	1094	6676	6934
TENNESSEE			
Bristol	522	3960	3779
Chattanooga	370	3383	3160
Knoxville	404	3404	3344
Memphis	398	2964	2974
Nashville	448	3428	3284
TEXAS			
Abilene	275	2193	2544
Amarillo	531	3461	3948
Austin	192	1799	1663
Brownsville	66	392	617
Corpus Christi	114	721	1005
Dallas	276	2094	2197
Del Rio	133	1331	1386
El Paso	284	2457	2531
Ft. Worth	284	2136	2266
Galveston (CO)	142	981	1181
Galveston	145	1029	1205
TEXAS (Cont'd.)			
Houston (CO)	157	1116	1249
Houston	162	1215	1352
Laredo	96	741	781
Lubbock	453	3223	3350
Midland	277	2400	
Port Arthur	165	1313	1478
San Angelo	243	2011	2045
San Antonio	168	1213	1545
Victoria	136	1772	1112
Waco	231	1804	1959
Wichita Falls	338	2481	2869
UTAH			
Milford	832	5942	5583
Salt Lake City	871	5557	5099
VÉRMONT			
Burlington	1126	6711	6805
VIRGINIA			
Lynchburg	504	4880	3777
Norfolk	388	3188	3130
Richmond	450	3650	3618
Roanoke	506	3944	3782
WASHINGTON			
Olympia	799	4698	4482
Seattle (CO)	721	3777	3689
Seattle	795	4450	4336
Spokane	1041	5933	5815
Stampede Pass (CO)	1274	7744	7238
Tatoosh Island (CO)	774	4410	4432
Walla Walla (CO)	748	4281	4301
Yakima	858	5260	5179
WEST VIRGINIA			
Charleston	548	4171	3989
Elkins	714	5184	5019
Huntington (CO)	517	3933	3732
Parkersburg (CO)	614	4341	4271
WISCONSIN			
Green Bay	1176	6988	7109
La Crosse	1123	6589	6774
Madison (CO)	1067	6251	6382
Madison	1061	6379	6484
Milwaukee	1021	5859	6124
WYOMING			
Casper	1209	6293	6451
Cheyenne	1116	5946	6210
Lander	1199	6544	7057
Sheridan	1298	6387	6710
ALASKA			
Anchorage	1292	8805	8964
Annette	979	5494	5607
Barrow	2594	15639	15673
Bethel	1589	10644	10587
Cordova	1130	7399	7601
Fairbanks	1699	12408	12336
Juneau	1146	6840	7223
Kotzebue	2065	13350	12867
McGrath	1632	12224	12261
Northway	1807	13357	13392
St. Paul	1268	8386	8163
Yakutat	1110	7175	7361
Nome	1843	11653	11220

Data from airport unless otherwise specified.
CO indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4

March 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Lawrence County, Ind.	1	1:30 a.m.	1 1/2		0	0	$40,000	$ 0	Tornado, wind, rain, and hail	Roar "like a freight train" heard by residents in rural area visited by storm. On 1 farm, barn destroyed, then 6-room house about 200 yards away unroofed, twisted, and most of second and part of first story carried away, but occupants not injured. Storm then skipped eastward about a mile to knock chimney and small portion of roof from another barn and demolish chicken house on same farm. Other wind damage to outdoor theatre, garage, powerlines, TV antennas, trees, etc., within 10 miles to east and west. Damage of $18,000 included in total caused by wind over area 1 mile north and south of tornado path and for distance of 15 to 20 miles east and west.
Troy, Miami County, Ohio	1	1:50 a.m.	1/2	100	0	0	200,000	0	Tornado	Widespread damage within path to residences and commercial buildings. Greatest monetary loss sustained by 2 manufacturing plants. Path northeastward from Highland Park to Miami River.
Shelby and Oldham Counties, Ky.	1	2-2:30 a.m.		1,000			27,000		Wind, rain, hail, and electrical	Winds ripped roofs off homes and knocked down barns, trees, and utility poles. Storm moved southeastward.
Kentucky, central portion	1	2:30-3:30 a.m.					35,000		Wind and rain	Winds, with gusts to 60 m.p.h., and higher, damaged dozens of structures, including homes, barns, business houses, and lesser buildings. Utility poles knocked down. Trees broken or uprooted. Several cars damaged by falling trees. TV antennas blown down.
Youngstown (extreme eastern suburbs), Ohio	1	2:52 a.m.	1/8	40	1	6	150,000	0	Tornado	Destruction confined mainly to residences, trees, etc. Moved eastward.
Ravenna, Ohio	1	3 a.m.			0	0	200,000	0	Tornado (possible)	Damaged buildings at Ravenna Arsenal. Moved eastward.
Anderson, Knox, and Blount Counties, Tenn.	1	6:55 a.m.	10	1,000			100,000		Wind (squall line)	Several homes and numerous farm buildings damaged or destroyed. Storm moved southeastward.
New York, western portion	1	Early a.m.							Electrical and rain.	In Franklinville, home suffered about $600 damage by lightning. In other portions of western New York flash floods from heavy rain eroded highways and covered them with mud. Private lawns left under deposits of gravel, mud, and other debris. Basements flooded, and heating plants put out of operation. Total damage will run into thousands of dollars.
Cook County, Ill.	3	3:15 p.m.			0	0	0	0	Tornado and hail	Funnel cloud observed, but did not reach ground; moved eastward. Subsequently, tornado action and damage occurred in adjacent Indiana.
Gary to Ft. Wayne, Ind.	3	3:30-9 p.m.	150	*1/2 to 1	0	3	1,250,000	0	Wind, tornadoes, rain, hail, and electrical	Damaging winds swept in path from Chicago-Gary area to beyond Ft. Wayne. Evidence indicated several small tornadoes present within this relatively narrow path. Several areas of more extensive damage defined. The first, in Gary-Ogden Dunes area was about 1/2 mile wide and 7 miles long. Next area of extensive damage was path 1/2 mile wide and 5 miles long at Westville, in La Porte County. Scattered damage also occurred to beyond Ft. Wayne. At Ft. Wayne, path of most extensive damage about 500 feet wide and 1/4 mile long, although hail occurred for distance of 12 to 13 miles to southward. Tornado damage particularly evident in Westville where a number of narrow damage paths 50 to 100 feet wide indicated family of tornadoes rather than single tornado. Hail reported throughout most of path and averaged about 1/4 to 1/2 inch in diameter, but ranged upward to 1 1/2 to 2 inches in diameter in Gary-Ogden Dunes area where heavy damage to automobiles, greenhouses, and windows. Wind damage also extensive in Gary-Ogden Dunes area, a houses destroyed in Westville area. At Ft. Wayne 1 house destroyed, several trailers overturned, other buildings unroofed, and powerlines, TV antennas, trees, and etc., damaged. Of total damage $50,000 caused by hail.
Clark and Hamilton Counties, Ill.	3	Afternoon					50,000	0	Hail	Hail damage in scattered localities in southeastern part of State.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Buchanan and Smyth Counties, Va.	3						$10,000	$	Rain	Rear of new building caved in at Hurley. 15 different road slides. 5 bridges washed out. Many cellars along Slate Creek full of water, with considerable damage to property. Pavements cracked by hard winter freeze had great holes washed in them. Large amount of topsoil washed away on newly-plowed fields.
	3									Minor storm also reported at Narrows, Va.
Vanderburg County, Ind.	4	1:30 p.m.				2	900,000		Wind, rain, and hail	
Mead County, Ky.	4	4-5 p.m.	16		4	1	500,000		Wind, rain, hail, and electrical	Occurred at Brandenburg and area to Andyville and Battletown. Greatest damage result of hail. Fatalities result of drowning caused by flash flooding. Hailstones measured 1/2 to 1 inch in diameter, and depth of hail on ground 2 to 5 inches. Damage to buildings, roofs, and windows.
White and adjacent Counties, Ill.	4	Afternoon					100,000		Hail and rain	Hailstones as large as golf balls over comparatively large areas did much damage.
Madison County, Ky.	4	6:45-7 p.m.	5	250	0	2	98,000	2,000	Tornado, rain, hail, and electrical	From village of Cottonburg eastward to south of Richmond. Tornado accompanied by heavy rains demolished houses, barns, and outbuildings. Cars damaged and utility services interrupted. Noise of tornado described as "like a freight train outside."
Anna, Union County, Ill.	4	9:30 p.m.	1/2	50	0	0	25,000	5,000	Tornado	Storm hit eastern edge of Anna, causing property damage, then hit orchard to northeast. Rotating pattern evident in grass and dust.
Mitchelville community, Robertson and Sumner Counties, Tenn.	4	10:54 p.m.	5	1,000	0	4	300,000	Slight	Tornado	30 homes destroyed or damaged; 50 head of livestock and 4,000 chickens killed; 20 barns and 1 new brick school building destroyed. Storm moved east-northeastward.
	4									Minor storm also reported at Waverly, Ill.
	4									Minor storm also reported at Wilmington, Del.
New England	4-6				14	40	No estimate		Snow, sleet, and glaze	Precipitation mostly in form of snow on 4th, and as sleet and glaze on 5th and 6th. Of 14 storm-induced deaths, 8 were from over-exertion, 5 on highways, and 1 by drowning. Many traffic accidents occurred and all types of transportation frequently slowed to crawl.
Narrows, Va.	5	A.m.					12,500		Rain	Wolf Creek flooded second time within week. Tennis courts and pumphouse for wading pool destroyed, 200 square yards of parking area torn up, and trees felled in park. Breaks or "pot holes" caused on all streets and avenues. 20 basements flooded.
Carthage, Smith County, Tenn.	5	3 p.m.	1/2	100	0	3	10,000	Slight	Tornado	Storm struck in sparsely settled community, resulting in only minor damage; moved east-northeastward.
Henry and Pittsylvania Counties, Va.	5	4-4:10 p.m.	20				75,000	2,500	Hail and wind	Damage in Collinsville-Martinsville area and from Museville northeastward through Gretna, Sycamore, Hillgrove to Long Island and Campbell County line. Hailstones size of guinea eggs fell for about 10 minutes and battered holes in a score of house and barn roofs, smashed window glass, beat tobacco-plantbed canvasses to ground, killed chickens caught in open, dented auto bodies, and broke out windshields. Roof of store in Gretna ripped off. 600 damage claims filed.
Benton, Franklin County, Ill.	5	Afternoon					5,000		Hail	Hailstones up to 3 inches in diameter for 2-minute period damaged automobiles, windows, signs, and trees.
Guilford, Forsyth, Alamance, Stokes, and Caswell Counties, N.C.	5	Afternoon and evening					40,000		Hail and wind	Scattered hailstorms, mostly in Guilford County, caused damage to roofs, windows, autos, and shrubbery. Accompanying winds damaged trees and buildings.
eKalb and Wilson Counties, Tenn.	5	7 p.m.	20	500	0	0	50,000	Slight	Tornado	Tornado passed over DeKalb and Wilson Counties and was probably same storm that struck near Carthage; moved east-northeastward.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued March 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Deep River Community, Guilford County, N.C.	5	7:30 p.m.	5	400	0	1	$10,000	$ 0	Tornado (possible)	Roofs and outbuildings destroyed and trees blown down, one on auto. Man cut slightly by flying glass. Storm called tornado by press; not yet verified. Associated with general stormy weather. Storm moved southeastward.
Surgoinsville section, Hawkins County, Tenn.	5	8 p.m.	4	300	0	6	200,000	Slight	Tornado	12 homes destroyed and 50 outbuildings. At 1 home, stove and refrigerator carried more than 500 yards Mr. and Mrs. Bill Price were blown 200 yards into a field, but miraculously escaped injury. Tornado moved east-northeastward.
	5									Minor storm also reported at Mount Airy, Md.
Oneida, Oswego, Onondaga, Franklin, and Clinton Counties, N. Y.	7								Wind and snow	High winds with snow of 8 to 20 inches in depth closed highways. Automobiles and other vehicles abandoned, stuck in snow. Many schools closed. There was little damage other than to colliding automobiles.
Paxson Lodge, Alaska	9	Noon			1				Snowslide	Man killed when buried alive under tons of snow which thundered down slopes, 4 miles north of Paxson on Richardson Highway, 200 miles north of Anchorage. Depth of slide estimated at 200 feet. Victim and hunting companion snowshoeing across face of steep hill when slide began.
	9									Minor storm also reported at Kittanning, Pa.
Kansas	10	Day and evening							Wind and dust	Serious soil erosion, with dust carried across Stat by strong upper winds. Visibility briefly reduce to zero in many places as rapidly moving squall line moved across State.
Buchanan County, Va.	10								Rain	Second flooding in week. 5 more bridges washed ou Countless slides. Damage greater than previous flood on 3d.
Colorado, entire State	10-11								Wind, snow, and dust	Strong winds caused blowing snow in higher elevations and blowing soil over eastern plains. Heav crop damage, light property damage. Storm moved southeastward.
Wyoming, southeastern portion	10-11								Wind	Wind caused considerable soil erosion. In some places soil was drifted over weeds and behind fences to depth of 2 to 3 feet. Winter grains al suffered damage when soil was blown away from root A number of television antennas damaged.
Indianapolis, Ind.	11	1:30 a.m.				1	2,500		Wind, hail, and electrical	Hail size of golf balls broke numerous windows and strong winds blew out 2 plate-glass windows. Man injured when shutter blown from building. Hail damage $2,000, wind $500. Storm moved eastward.
Ridgeville, Randolph County, Ind.	11	2 a.m.			0	0	20,000	0	Tornado, wind, rain, and electrical	Tornado moving eastward caused considerable damage near Ridgeville and appears to be separate from Farmland-Union City storm which struck later.
Farmland to Union City, Randolph County, Ind.	11	2:50 a.m.	18	500	0	2	600,000	0	Tornado, wind, rain, and electrical	Tornado moved eastward. Most damage to barn roofs and trees. Tornado seemed to stay about 20 to 30 feet above ground, but dipped about 1 mile west o Union City and destroyed upper half of 2-story house, and 200 yards to south it took roof off ranch-type house. In Union City most damage to trees, TV antennas, and a church steeple. Greatest destruction in Union City by fire started by lightning. Telephone and electric services disrupted. Injuries caused by tornado when trailer home overturned several times. Damage by tornado $100,000, by lightning $500,000.
Shelby, Rush, Fayette, and Union Counties, Ind.	11	3 a.m.	40	880	0	5	500,000	0	Tornado, wind, rain, hail, and electrical	Tornado moved eastward from Morristown, through Connersville to Brownsville. Several boxcars and semi-tractor trucks bowled over; houses and barns unroofed or destroyed.
Salem-Leetonia area, Ohio	11	5:25-5:30 a.m.	3	200	0	0	100,000	0	Tornado	Storm extended from 1 1/2 miles southeast of Salem suburbs to just north of Leetonia. Numerous home and farm buildings damaged, livestock killed, and many ancient trees uprooted. Moved east-northeas ward.
West Virginia locally most counties in western and central portions in State	11	5:30-10:30 a.m.					139,000		Wind, electrical, hail, and rain	Severe thunderstorms attended eastward passage of squall line oriented northeast to southeast. Tree uprooted, roofs torn off buildings and buildings otherwise damaged or destroyed, signboards blown down, antennas leveled, power and communications services disrupted, homes and other buildings flooded through broken windows; local flooding of city streets.

See footnotes at end of table.

able 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
lest Virginia (Cont'd)							$	$		Damages to property reported: Weirton area (Hancock County), $50,000. Wheeling area (Ohio County), $60,000. Middlebourne area (Tyler County), $3,500. Parkersburg area (Wood County), $25,000. Webster Springs area (Webster County), no estimate. Hinton area (Summers County), $500.
lewcomerstown, Ohio	11	5:31 a.m.	4	200	0	2	200,000	0	Tornado, hail, and rain	Principal damage in business section and consisted of partial destruction of numerous buildings, including garage, church, and school. Moved northeastward to open country.
teubenville, Ohio	11	5:45-7 a.m.			1	Few	100,000		Wind with thunderstorm	Major damage to church roof and other structures.
	11									Minor storm also reported in Carter County, Ky.
	11									Minor storm also reported at Covington, Va.
	11									Minor storm also reported in Harrisonburg-New Market area, Va.
	11									Minor storm also reported in the Martinsville area, Va.
	11									Minor storms also reported at Clear Spring, Oakland, and Cumberland, Md.
	11									Minor storms at numerous points in Ohio, also, notably at Zanesville.
azewell County, Va.	11-12						10,000		Rain	In Richlands extra damage occurred to streets already damaged by hard winter. Truck mines flooded as never before and work ceased several days; roads leading to mines became impassible.
ithia Springs to Austell, Douglas and Cobb Counties, Ga.	12	8-8:30 p.m.	2-3				47,500	2,500	Hail	Hailstorm affected Austell and rural areas between Austell and Lithia Springs, with most damage in Austell; declared to be worst hailstorm ever to strike this place. Hail began to fall in marble size, gradually becoming heavier and increasing in size, and some hailstones as large as golf balls at height of storm. Hail collected on ground in some areas to depth of about 1 foot. Many house roofs damaged, numerous windows or panes broken, and almost every neon sign on 1 street broken or damaged. Many trees and shrubbery stripped of leaves or flowers, and streets littered with twigs and limbs of trees and other debris.
tlanta (southern portion) Fulton County, Ga.	12	8:15-8:45 p.m.	3-5	880			10,000	5,000	Hail	Hail size of marbles to hens' eggs; one measured 1 1/2 inches in diameter. Numerous house roofs battered and damaged, utility lines damaged, and a greenhouse heavily damaged. Much foliage knocked from trees and shrubbery, and some early gardens suffered moderate to heavy damages. Storm moved eastward.
	12									Minor storm also reported at Charlotte, N. C.
nderson, Greenwood, Abbeville, McCormick, Saluda, Edgefield, and Aiken Counties, S.C.	13	4-10 p.m.	70	*6-7				2,000,000	Hail, wind, rain, and electrical	Storms moved east-southeastward at 20 to 30 m.p.h. First appeared in eastern Anderson County during afternoon near Iva and Antreville. Heavy hail over path 10 to 20 miles long and a few miles wide. Thunderstorm accompanied by severe hail a little north of McCormick about 7 to 8 p.m. This heavy hail continued eastward through Ridge Spring where tornado reported. Storm generally lost intensity after it passed Saluda County with thunderstorm moving into Orangeburg County about 10 p.m. About 20 homes, many barns, and several stores and other buildings including cannery destroyed. Hail in severe areas did major damage to large peach orchards, damaging fruit and trees. Some young orchards destroyed. Hail size of hens' eggs, with accumulations to 6 and 8 inches.
partanburg, Cherokee, York, Lancaster, and Chesterfield Counties, S.C.	13	7-10 p.m.	80	*1-10	0	0	50,000	500,000	Tornado (possible), hail, wind, rain, and electrical	In property damage 6 miles north of Gaffney there was evidence of possible tornado at 8 p.m., also small area of timber destroyed near Ruby in Chesterfield County at 10 p.m. Area affected by this storm is along a narrow band from just north of Spartanburg eastward to northwestern Chesterfield County. Major property damage in Cherokee County, although some property damage during course of storm. Major crop damage to peach orchards along course of hailstorm. Depth of hail ranged up to 4 and 5 inches. Storm moved eastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Ridge Springs area, Saluda County, S.C.	13	8:40 p.m.	10	1,000	2	10	$ 500,000	$ No estimate	Tornado, wind, rain, hail, and electrical	Severe thunderstorms moved eastward across State at 20 to 30 m.p.h. Tornado appeared during course of severe hailstorm. Crops damaged by hail.
	13									Minor storm also reported at Wrens, Jefferson County, Ga.
Colorado, eastern portion	13-14						Moderate	Light	Wind and dust	Storm of moderate intensity, caused reduced visibility at some points and considerable soil erosion in southeast. Storm moved southeastward.
Marceline, Linn County, Mo.	14	12:05 p.m.	2	*2			120,000		Hail and rain	Storm moved northward. Damage principally to greenhouses and roofs. Stones averaged about size of golf balls and a few 7 1/2 inches in circumference.
Cameron (5 miles south of), Mirabile and Kingston, Clinton and Caldwell Counties, Mo.	14	5:10 p.m.	4	250	0	1	50,000	0	Tornado, rain, and hail	Tornado moved eastward. 1 home destroyed, 5 damaged, and 25 other buildings destroyed and 2 damaged.
Coffey County, Kans.	14	5:10 p.m.	15	*10			20,000		Hail and rain	Numerous reports of hail in extreme eastern Kansas, bu little damage elsewhere. Storm moved northeastward.
Excelsior Springs (southeast of), Clay County, Mo.	14	5:40 p.m.	4	250	0	0	40,000	0	Tornado, rain, hail, and electrical	Tornado moved northeastward into Ray County. 5 farm buildings damaged; several barns and sheds demolished. Funnel observed and roar heard.
Excelsior Springs, Clay County, Mo.	14	6 p.m.	1/4	100	0	0		0	Tornado and rain	Principal damage to lumberyard; roof, 160 feet long, scattered; large pieces of roof carried 2 blocks away over 2-story school building. 2 cars and dump truck, parked near lumberyard, overturned and badly damaged.
Lawrence, Douglas County, Kans.	14	6 p.m.			0	0	0	0	Tornado (suspected)	Northeast end of line of radar echoes near Lawrence at time of sighting. Tornado moved northeastward.
Kearney, Clay County, Mo.	14	6:30 p.m.	2	1,500			20,000		Hail and rain	Storm moved southeastward. Hailstones 2 to 3 inches in diameter, lasted about 30 minutes. Roofs damaged and some windowpanes broken.
Osage and Pawnee Counties, Okla.	14	Evening	25	1,760			Considerable	Slight	Wind and hail	Window glass broken, car bodies dented, shingles broken and blown from roofs. Considerable property and slight crop damage. Storm moved northeastward.
	14									Minor storm also reported at Braymer, Mo.
	14									Minor storm also reported at Dadeville, Mo.
	14									Minor storm also reported at Mooresville, Mo.
	14									Minor storm also reported at Winchester, Drew County, Ark.
	14									Minor storm also reported in Bourbon County, Kans.
Muhlenberg County, Ky.	15	9:30 p.m.			0	9	150,000	0	Tornado and rain	Tornado of bounding type hit parts of communities of Holts and Cleaton. At least 15 houses demolished and about 30 others seriously damaged. Garages blown over, porches damaged, and cars overturned. Trees and fences uprooted, with debris hanging in tree branches and on powerlines. Storm moved south-southeastward.
	15									Minor storm also reported in Crocker and Dixon areas, Mo.
	15									Minor storm also reported in Marion County, Ky.
Coeburn, Va.	15-16								Rain	Worst flooding in 5 years. First time water entered business section. Damage several thousands of dollars.
Sheridan and Prattsville, Grant County, Ark.	16	1:30 a.m.				2	2,000		Electrical	Lightning struck house in Sheridan, causing 2 injuries and $2,000 property damage. Minor damage to house in Prattsville.
Fremont (near), Wayne County, N.C.	16	3:30 p.m.	5	500	1	1	25,000	0	Tornado	Tornado moved east-southeastward. Death and injury by auto accident, due indirectly to tornado. Many outbuildings and roofs destroyed or damaged. Funnel seen and heard 4 miles north of Fremont.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Greenville (near), Pitt County, N.C.	16	Afternoon			0	0	$2,000	$ 0	Tornado (possible)	Tobacco barn blown over and roofs damaged 8 miles east-southeast of Greenville and about 40 miles east of above-reported tornado. Man, who narrowly escaped falling barn, reported funnel cloud.
	16									Minor storm also reported at Wilmington, Del.
	16									Minor storm also reported at Baltimore, Md.
	17									Minor storm reported in Comanche County, Okla.
	17									Minor storm at Pittsfield and vicinity, Mass.
Damascus, Va.	18						50,000		Rain	Damage to streets, highways, waterlines, and railroads considerable. Small dam in low-lying West Damascus gave way to swollen Laurel Creek, inundating section of N&W tracks, washing out ties, and breaking supports on 2 trestles. 18 persons removed to safety. Water main serving part of Damascus and Abingdon broken; out of service 2 to 3 days.
Sugar Grove, Va.	18								Rain	Cascading waters knocked out town's waterworks for about 2 days before silt and debris were removed from 3 springs and small reservoir. 1200 people without drinking water.
Montague, Bonita, and Nocona, Montague County, Tex.	20	8:30 a.m.	24	800	0	1	35,000	0	Tornado (suspected)	Suspected tornado, moving northeastward, badly damaged stone-block garage; roofs blown off of several houses and barns. Injury caused by flying glass.
Paris, Subiaco (north of), and Cross Roads community (near Scranton), Logan County, Ark.	20	12:30 p.m.	10	50-70	0	0	5,600	0	Tornado and rain	Passed from Paris to north of Subiaco, to Cross Roads community near Scranton. Touched ground at least 3 times in communities mentioned over distance of 10 miles. Funnel observed by several. Damage to church buildings at Paris estimated at $5,000. Damage in Cross Roads community $600. Storm moved east-northeastward.
Waco area, McLennan County, Tex.	20	1:45 p.m.						1,000	Wind, rain, hail, and electrical	Hailstones, 1 to 1 1/2 inches in diameter, in approximately 10 square miles. Storm moved southeastward.
Conway, Faulkner, and Cleburne Counties, Ark.	20	2-3 p.m.	50	*10		1	30,000		Wind, rain, and hail	Most damage occurred at Plumerville in Conway County, Guy, Needs Creek, Friendship, and Pleasant Valley communities in Faulkner County, and Quitman and Ida in Cleburne County. Damage in Plumerville area estimated at $25,000. Considerable damage around Quitman and Ida areas where several buildings damaged. Red Cross expenditure in this area reported at $1,259. Nearly a dozen homes in a small area north of Guy damaged. American Red Cross reported 8 homes and 8 other buildings damaged in Conway County; 6 homes damaged in Cleburne County; and 4 homes and 15 other buildings damaged in Faulkner County. Storm moved east-northeastward.
Hope, Hempstead County, Ark.	20	3:15 p.m.					Considerable		Wind, hail, and rain	Many homes in city suffered damage by wind, but most damage by excessive rain. Experiment station northeast of Hope reported 4.33 inches, but it was estimated that rain heavier in Hope. Considerable property damage.
Craighead and Mississippi Counties, Ark.	20	3:30-5 p.m.	38	200-250	0	1	13,000	0	Tornado and rain	Tornado crossed into State of Missouri--These data for Arkansas only. Tornado originated in Arkansas in Craighead County near Otwell at 3:30 p.m. In east-northeastward path for about 38 miles in Arkansas, it struck in or near following areas: Otwell, Valley View, and Poplar Ridge (west of Monette) in Craighead County, and north of Leachville in Mississippi County where it crossed Arkansas-Missouri State Line. American Red Cross reported 18 homes damaged in Craighead County, and 1 home and 2 other buildings damaged in Mississippi County. (2 homes damaged just across State Line in Missouri.) Some buildings damaged while others nearby not touched. Scattering of debris showed counterclockwise action. Noise from tornado described as roar "like a freight train." Damage estimated at $12,000 in Craighead County and $1,000 in Mississippi County. Heavy rains, especially in Jonesboro area; thousands of acres inundated.
San Antonio, Bexar County, Tex.	20	4 p.m.					100,000		Wind, rain, and hail	Storm moved eastward. Heavy damage to gin and other buildings east of city; trees, roofs, and plate glass damaged; wind 52 m.p.h., with gusts to 63 at Weather Bureau Airport Station.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Killeen to Lone Star, Bell County, Tex.	20	4:15 p.m.	4	6	0	1	$	$	Tornado, wind, rain, hail, and electrical	Tornado, moving eastward, upset trailers and unroofed homes; small girl's leg injured when trailer upset.
Hornersville (3 miles south of), Dunklin County, Mo.	20	4:30 p.m.	3/4	100	0	0	7,000	0	Tornado (suspected) and rain	Suspected tornado moved northeastward. 1 home destroyed and 4 damaged, 10 other buildings damaged.
East Prairie (5 miles southwest of), Mississippi County, Mo.	20	5:20 p.m.	4	250	0	17	100,000	0	Tornado and rain	Tornado moved northeastward through Windyville community. 5 homes destroyed, 8 damaged; 10 other buildings destroyed and 12 others damaged.
Nixon (8 miles northeast of), Gonzales County, Tex.	20	5:43 p.m.	5	400	0	0	15,000	0	Tornado, wind, rain, hail, and electrical	Tornado, moving northeastward, damaged windmill, barns, and homes destroying some. Probably a continuation of windstorm from San Antonio, but became a rotating storm near Nixon.
Bryan area, Brazos County, Tex.	20	6:15 p.m.							Wind and rain	House blown off of foundation blocks, barn demolished, and trees uprooted.
Lawrenceburg (15 miles southeast of), Lawrence County, Tenn.	20	7:20 p.m.			0	2	5,000	Slight	Tornado and rain	1 house and 1 barn destroyed. Many trees uprooted. Extremely heavy rains fell.
Longview, Gregg County, Tex.	20	7:55 p.m.							Wind, rain, hail, and electrical	Light hail, stones 1/4 inch; northwest wind 40 m.p.h. with gusts to 65 m.p.h.
Tyler area, Smith County, Tex.	20	8 p.m.					100,000		Rain and electrical	Home on Greenbriar Lake struck by lightning, which resulted in fire confined to second floor.
Shreveport and vicinity, La.	20	8:50 p.m.			2		50,000		Wind, rain, and electrical	2 men drowned on Cross Lake; high winds damaged signs, buildings, wires, etc.
Minden, Webster County, La.	20	9:30 p.m.					20,000		Wind and rain	Garages blown down, radio tower toppled, wires downed, and trees uprooted.
Waskom area, Harrison County, Tex.	20	9:30 p.m.	3	300	0	0	6,000	200	Tornado (suspected), rain, and electrical	Suspected tornado, moving northeastward, damaged 7 homes near State Line and uprooted large trees.
Iowa, extreme western portion	20	All day			1				Ice, snow, and wind	4 to 7 inches of snow with 30 to 40 m.p.h., winds downed utility lines and stalled traffic. Schools closed. Numerous traffic accidents, resulting in 1 fatality.
Blooming Grove area, Navarro County, Tex.	20	P.m.	1/4	50	0	0	1,000	0	Tornado and rain	Tornado, moving southeastward, picked up car and damaged 2 homes, garage, and barn. Funnel cloud observed.
Mabank, Kaufman County, Tex.	20								Electrical	2 homes struck by lightning.
	20									Minor storm also reported near Trask, Mo.
	20									Minor storm also reported in Kern County, Calif.
	20									Minor storm also reported at Uvalde, Tex.
	20									Minor storm also reported in Tatum area, Tex.
	20									Minor storm also reported near Chico, Tex.
	20									Minor storm also reported in Gainesville area, Tex.
Oklahoma, most of State	20-21	P.m.-a.m.	350	*200			Light	Enormous	Thunderstorm, sleet, and cold	Greater portion of fruit crop destroyed. Storm moved eastward.
Colorado, entire State	20-25						Light	Moderate	Wind, snow, and dust	Strong winds, snow, and low temperatures prevailed on 20th and 21st; blowing snow and dust reduced visibility and slowed transportation. Similar conditions occurred from 23d to 25th; drifted snows in higher elevations, blocked some roads and highways, caused schools to close, and detrimental to livestock. Winds over plains eroded soils and damaged winter grains. Storm moved eastward.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Tupelo, Lee County, Miss.	21	11:44 a.m.	3/10	34	0	0	$ 75,000	$ 0	Tornado, wind, and rain	Tornado struck in southwestern side of town, lifted and struck again in Flowerdale about 10 blocks to northeast.
Allsboro, Colbert County, Ala.	21	12:30 p.m.	5	200	0	1	20,000	0	Tornado (suspected), wind, and rain	According to press reports, 2 houses destroyed, 1 house and cotton gin damaged. Allsboro storm moved into Chisca, where transfer truck overturned. Storm moved northeastward.
Calallen (5 miles east of), Nueces County, Tex.	21	1:30 p.m.	1/4	25			11,000		Dust devil and wind	Roof of huge chickenhouse picked up and carried about 100 yards. Moved east-southeastward.
Lawrenceburg (6 miles north of), Lawrence County, Tenn.	21	2 p.m.			0	0	5,000	Slight	Tornado	2 houses and 1 barn destroyed.
Guin, Marion County, Ala.	21	4:45 p.m.	10	1,000			10,000		Wind and rain	General high winds, with some tree and other damage likely in most sections. Storm moved northeastward.
Birmingham, Ala.	21	6 p.m.				5	100,000		Wind, rain, and hail	Injuries due to traffic accidents in rain. Damage due to water and wind, with slight hail damage. Estimate based on 300 trees uprooted; 5 to 10 houses unroofed; 30 to 40 houses damaged by falling trees; 50 automobiles damaged by falling trees.
Iowa, extreme eastern portion	21	All day							Snow with blizzard conditions	40-to 50-m.p.h. wind drifted snow to 3 and 4 feet deep. Roads blocked and schools closed.
Temple (4 miles north of), Bell County, Tex.	21		3		0	0	3,000	0	Tornado (suspected) and wind	Suspected tornado destroyed barn; also wrecked brooder house and snapped off light pole.
	21									Minor storm also reported at Lake Jackson, Brazoria County, Texas.
	21									Minor storm also reported in Georgetown-Granger area, Texas.
	21									Minor storm also reported in Etowah County, Ala.
	21									Minor storm also reported at Tuscaloosa, Ala.
	21									Minor storm also reported at Jackson, Miss.
	21									Minor storm also reported at Canton, Miss.
	21									Minor storm also reported at Winona, Miss.
	21									Minor storm also reported at Buckatunna, Wayne County, Miss.
Washington, entire State	21-22	A.m. of 21st – a.m. of 22d.			1		70,000	100,000	Wind and rain	High winds began in west during morning of 21st and continued until morning of 22d in east. Death in Seattle area caused by fallen powerline. Damage west of Cascades generally limited to a few broken windows, damaged roofs and television antennas, and power and communication failures. East of Cascades, greatest property damage in Pasco-Kennewick area; outdoor theater screen wrecked, roofs damaged, power and communication lines damaged. Wind erosion rather serious in Columbia Basin. Highway side ditches filled with blowing soil; necessary to reseed some crops in a few localities. Greatest damage in Franklin and Benton Counties.
Kentucky, entire State	21-22				2	1	750,000		Wind and rain	Windstorm with rain and cold temperatures swept over entire State. Gusts up to 75 m.p.h., recorded in some locations. Houses unroofed, trees uprooted, television antennas dismantled, plate-glass windows smashed, and many cars damaged by falling trees and utility poles. Storm damage in most localities relatively small, but whole State affected. Fatalities and injury caused by flash flood, resulting from heavy rains in Middlesboro area, Ky.
	21-22									Minor storm also reported at Bittinger, Md.
Wisconsin, entire State	21-23				4	Many			Snow, wind, and sleet (blizzard)	New snow accumulation 4 to 14 inches, high winds, and falling temperatures. Snow drifts in central Wisconsin 5 to 6 feet high. Highways and railroads blocked. Hundreds of rural and urban schools closed. Many auto accidents. Sleet, 4 to 6 inches, fell in southeast, leveling telephone and electric lines. Although property damage at minimum, loss to general business reported heavy, due to no production, lack of customers, and no movement of freight, produce, and so forth. Storm moved east-southeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Indianapolis, Ind.	22	1 a.m.	3	10	0	0	$10,000	$ 0	Tornado, wind, and rain	Garage and 2 chicken houses destroyed, house unroofed, and trees blown over. Characteristic roar heard and evidence of rotational-type storm observed in debris pattern. Storm moved northeastward.
Pennsylvania, western half	22	6-8 a.m.	150		3		Millions	Unknown	Wind, rain, hail, and electrical	Severe winds accompanied active squall line. Widespread wind damage. Woman killed in Pittsburgh area when wind toppled billboard on her. Man killed near Brookville when block wall blown in on him. Man died of heart attack while clearing storm debris in Johnstown area. Peak gusts reported by Weather Bureau Stations: Blairsville, 106 m.p.h.; Allegheny County Airport, Pittsburgh, 92 m.p.h.; Greater Pittsburgh Airport, 90 m.p.h.; control tower Greater Pittsburgh Airport, 98 m.p.h. Hail fell in scattered areas, accumulating to depth of several inches in a Pittsburgh suburb. Many barns demolished, killing and injuring livestock. Several houses demolished, but most damage to dwellings limited to roofs blown off, windows broken, chimneys toppled, antennas broken or twisted. Much damage to buildings under construction. Hundreds of trees downed, disrupting power service in many localities. 553-foot televisio transmitter tower blown over near Pittsburgh, damage approximately $120,000. 320-foot radio transmitter tower blown over near Pittsburgh, damage approximately $12,000. Ore bridge at Homestead District Steel Works near Pittsburgh blown down. Estimated cost of replacement, over 1 million dollars. Ore bridge at Johnstown Bethlehem Steel Works wrecked by wind. Insurance companies listed this storm as catastrophe. More than 12,000 storm damage claims received totaling more than 1 1/2 million dollars, exclusive of damage to ore bridges. Storm moved eastward.
Ravenna and Genoa, Ohio	22	8:30-9 a.m.			1	1	200,000	0	Tornado (possible)	Most damage at Ravenna Arsenal where partial destruction of buildings occurred. Other damage in Genoa. Moved northeastward.
Poland, Mahoning County, Ohio	22	9-9:05 a.m.	3/4	400	0	Few	20,000	0	Tornado	Just east of business section the storm removed roof from house, then skipped, lower ground to cut swath through shrubs and trees, and damaged roofs on 4 more houses. Moved northeastward. Gusts of over 70 m.p.h., measured in many sections of State.
West Virginia, locally northern counties	22	Early a.m. -p.m.							Wind and electrical	Locally destructive winds attended passage of north to south cold front over State. Trees uprooted, roofs blown off buildings, antennas and signboards blown down, power and communications lines damaged, and some farm buildings destroyed.
West Chester, Chester County, Pa.	22	3:30 p.m.	3 1/2	600	1	0	100,000	0	Tornado (suspected), wind, and rain	Suspected tornado apparently originated in eastern section of West Chester, with skipping path of damage. Several buildings, including barns, destroyed; over 50 buildings unroofed; hundreds of windows broken; many trees felled; and numerous utility poles and wires downed, disrupting power service. Death occurred when large tree toppled onto truck, killing driver. Storm moved northeastward.
Princeton Junction, N. J.	22	4:30 p.m.	**20	34			15,000		Wind, rain, and hail	Very severe straight-line wind struck warehouse, containing furniture and household goods in storage. Most of east and south walls blown to east, and roof and several cinder blocks carried about 500 feet east-northeastward and dropped in wheatfield. Building was approximately 100 feet by 60 feet and consisted of 1 story above basement which was mostly above ground. Very dense yellowish cloud extended almost to ground, causing it to become very dark during its passage. Heavy rain fell for a few minutes and severe wind lasted only about 1 minute. Storm appeared rather suddenly. No funnel observed. Wind of terrific force and must have exceeded 100 m.p.h., to have carried heavy roof and cinder blocks 500 feet.
Shaftsbury, Bennington County, Vt.	22	5 p.m.	**50-65	33	0	0	5,000	0	Tornado and rain	Tornado lasted less than a minute, but leveled 2 barns and a silo. Power and telephone lines in area also torn down. Storm moved westward.
Indiana, entire State	22	All day				5	1,000,000		Wind and snow	Most of wind damage accompanied passage of cold front, eastward across State between midnight and daybreak, but reported injuries, excluding traffic, sustained during day. Damage from wind greatest in central and least in extreme northwest. Losses consisted of damaged or torn-off roofs, downed TV antennas, broken plate glass, and flattened barns and other small buildings, and to a few large but apparently structurally weak buildings. Towboat and barge traffic stopped by 5-foot waves on Ohio River, and barges sunk. Although average snowfall comparatively light, strong winds drifted it and closed all roads north of State Road 28 on 22d. Drifts as high as 10 feet.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Indiana (Cont'd)										A parked, light aircraft at Weir Cook Municipal Airport, Indianapolis, was overturned early in morning (tie-down ropes broke) and a taxiing light aircraft was blown off runway and nosed over at Hulman Field, Terre Haute, in afternoon.
Illinois, entire State	22	All day			7	Many	$5,000,000	$	Ice(glaze) and blowing snow (blizzard)	Freezing rain in some sections, followed by heavy blowing snow in all sections of State. Automobile accidents numerous in all sections, trees fell on houses, utility lines broken, and numerous accidents and some deaths occurred. Drifting snow closed many highways, and numerous automobiles snowbound enroute. Snow accumulated to 8 inches over northwestern quarter, with lesser amounts southward to Ohio River. Drifts several feet deep general in northwestern third. Near Rockford, Greyhound bus stalled in 8-foot drifts.
Michigan, entire State	22	All day			3	200	6,700,000		Wind, rain, and snow	Low-pressure system moved across lower Michigan. High winds, with gusts reaching over 80 m.p.h., caused widespread damage, mainly in southern half of lower Michigan. Roofs torn off, trees uprooted or damaged, windows smashed, and utility lines downed. Heavy losses along north shore of Lake St. Clair, where high waves caused severe damage to shore property, docks, and boats. Blizzard conditions covered much of State, especially in Upper Peninsula where heavy snow and high winds resulted in worst winter weather conditions experienced in many years. Barometric pressure very low in path of storm center, a new record was set at Grand Rapids when sea-level pressure dipped to 28.70 inches on morning of 22d. Storm moved northeastward.
New England, southern and central portions	22	All day			2	5	Heavy		Ice, wind, rain, hail, and electrical	Widespread damage. Western and central Massachusetts hardest hit by icing; many trees and wires downed, and many communities without electricity and phones. Planes grounded. Wind damage consisted mostly of broken plate-glass windows. Traffic halted or slowed and many accidents, mostly minor, reported. Damage heavy.
Pennsylvania, entire State	22	Daytime			3		Hundreds of thousands	Unknown	Wind, rain, hail, and electrical	Occluded front moved eastward through State with high winds. Wind and high waves destroyed much of Erie County lakefront, beaches, and properties; damage over $75,000. Outdoor-movie screen demolished near Meadville; damage $10,000. Numerous buildings unroofed throughout State. Many plate-glass windows broken. Thousands of television antennas broken. Trees felled, disrupting power service in many areas. Heavy rains caused some minor flooding in southeastern counties, with hail in scattered areas. 1 woman died of heart attack while mopping water from heavy rains near Lancaster. Youth killed when struck by lightning while driving tractor in Luzerne County. Truck driver killed when tree blown over on his truck.
South Carolina	22	Daytime				3	3,000		Wind and dust	Strong winds caused considerable minor damage across State. Dust accompanied strong winds and was responsible for 14 wrecks, seriously injuring 3 persons
Virginia, Statewide	22	P.m.				3			Wind	Winds of 37 to 55 m.p.h., with gusts as high as 70 m.p.h., caused considerable minor damage over State, principally to roofs, fences, signboards, windows, service lines, and TV antennas. Ferry steamer ran aground in shoal area 3 miles southwest of Kiptopeke.
Cincinnati, Ohio	22						300,000		Wind	
Dayton, Ohio	22						200,000		Wind	
New York	22				1	1			Electrical, wind, rain, and snow	Winds ranging up to 80 m.p.h., in gusts at Buffalo, 65 at Niagara Falls, 63 at Rochester, 58 at Watertown, and 40 at Syracuse, accompanied by thunderstorms, heavy rain, freezing rain, and snow over much of State. $20,000 damage to fishing nets at Dunkirk; shore restaurant on Oneida Lake crushed by ice with $35,000 loss; roof at Cortland suffered $10,000 damage. Lightning-set fire burned $3,500 house and caused $900 damage to another. Grand Island and Cayuga Island at Niagara Falls inundated by flooding caused by ice jams and wind-blown water. Town of Wheatfield and low sections from Dunkirk to Buffalo hard hit by flood. 1 person killed at Olean and 1 injured at Rochester.
	22									Minor storm also reported at Garwood, N. J.
	22									Minor storm also reported in Idaho.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
	22						$	$		Minor storms also reported in Mount Airy, Annapolis, and Hagerstown, Md.
	22									Minor storm also reported in Washington, D. C.
	22-23									Minor storm also reported in Cumberland, Md.
Montana, western and central portions	22-25						27,000		Cold and snow	Severe cold wave in west and central, not so severe in east. Major loss to lambs and calves due to freezing and chilling. Storm moved southward, then eastward.
Chattanooga area, Hamilton County, Tenn.	23	3:30 a.m.					75,000	Slight	Wind	Warehouse damaged and 2 loaded trailers damaged to extent of $50,000. Estimated damage to homes and telephone and powerlines, $25,000.
	23									Minor storm also reported at Hancock, Md.
Ft. Pierce (10 miles west of), Fla.	24	12:45 p.m.	Short	Narrow	0	0	Slight	0	Tornado, rain, hail, and electrical	Tornado did not reach ground, but twisted tops off of a few trees. Hail 1/2 to 3/4 inch in diameter; some damage. Rain 1.51 inches. Severe lightning during storm. Storm moved southeastward.
Iowa, southwestern portion	24	All day							Snow	3 to 5 inches of new snow, but with little drifting. Other parts of State received only 1 inch.
Idaho, eastern portion	24	Forenoon-evening					15,000		Wind	Straight-line winds accompanying cold front. Principal damage apparently in vicinity of Pocatello where new record of 72 m.p.h. (from west), for "fastest mile" set. Roofs, signs, and plate-glass windows suffered most damage.
Corriganville, Md.	24	P.m.			2				Wind	2 persons electrocuted when TV antenna guy wire blown against high-voltage line.
Oklahoma, entire State	25	6 a.m.-midnight					Moderate	Considerable	Snow and dust	Livestock generally in poor condition and there was considerable loss. Storm moved eastward.
Florida, central portion	25	Afternoon						100,000	Hail, wind, and rain	Heavy roof damage to several homes and barns in Sumter County. Heavy hail in portions of Hernando, Pasco, Sumter, Polk, and Indian River Counties. Light hail in Lake and Brevard Counties. Strong winds whipped tender truck crops and citrus.
Belle Mina to Madison, Ala.	25	5 p.m.					No estimate	Slight	Wind, rain, hail, and electrical	Thunderstorm with wind and hail. Stones mostly size of marbles, but locally large and size of hens eggs reported at Belle Mina. A few trees uprooted.
Hillsboro and Manchester sections, Coffee County, Tenn.	25	5 p.m.					100,000	Slight	Thunderstorm, with hail and wind	Storm in connection with squall line. Highways blocked by 5 inches of hail around Hillsboro and Manchester, but melted rapidly. No funnel clouds observed. Damage mostly to roofs and outbuildings.
Jefferson, Hamblen, and Cocke Counties, Tenn.	25	5:30 p.m.	50	*3-5	0	0	500,000	Slight	Tornado	Numerous homes, barns, and outbuildings destroyed or damaged. Storm struck Dandridge, Morristown, White Pine, and Newport sections. Almost unbelievable that so many homes, barns, and automobiles could be destroyed without any deaths or serious injuries. Storm moved east-northeastward.
	25									Minor storm also reported at Woodruff, Spartanburg County, S. C.
	26									Minor storm reported at Waco, Texas.
	26									Minor storm reported at Lake Marion, S. C.
Cumberland, Md.	26-27						25,000		Wind	
	26-27									Minor storms reported at Deep Creek Lake and Chesapeake Bay area, Md.
Pennsylvania, entire State	26-28	P.m. of 26th -p.m. of 28th			3				Wind and snow	Sustained high winds unroofed several buildings, shattered windows, and damaged trees and powerlines over State. Many areas of drifting snow in western portion. Scores of auto accidents resulted from snow-covered highways. 2 men killed when cars skidded out of control near Pittsburgh. 1 man killed in collision near Kane during snowstorm. Storm moved eastward.
New York	26, 27, 28				7				Wind and snow	Heavy snowstorm borne on winds that attained gust speeds in excess of 50 m.p.h., covered much of western, central, and northern portions of State with blizzard-like conditions. New York Thruway closed by snow and poor visibility from evening of 27th to morning of 28th. 23 inches of snow fell at Syracuse during storm and 18 to 20 inches in sections of northern counties. Many roads impass-

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
New York (Cont'd)							$	$		able for hours and hundreds of travelers marooned with their automobiles abandoned. Buses and trains hours behind schedules. Storm contributed to 7 deaths and uncounted personal injuries. Farmers unable to deliver milk from their dairies for a day or two in many localities. No large individual losses, but aggregate total would be sizable sum.
Southern Great Plains and South, including lower Mississippi and Ohio Valleys	26-29				3			60,000,000 to 100,000,000	Freeze (cold wave)	Record-breaking, late-season freeze, following several weeks of unusual warmth that had stimulated growth, caught vegetation, particularly fruit, truck crops, and grains in very susceptible condition. New Orleans, for instance, had a 30° temperature morning of 27th for lowest ever recorded so late in season during 82 years of record and lowest in that city last 4 years, after experiencing 87° on 17th for highest of record for so early in season. Other examples of low readings are 18° at Memphis, Tenn., 30° at Houston, Texas, on 26th; 21° at Montgomery, Ala., 16° at Atlanta and 26° at Savannah, Ga., 23° at Columbia, S. C., on 27th. Freeze followed readings as high as 80° to 90° on 8 to about 18 days earlier in month from Texas to Carolinas and occasionally as far north as Missouri (86° at St. Louis on 10th). Fruits, particularly peaches, that had mostly reached the blossom stage were practically all killed in Gulf and South Atlantic States and in lower elevations northward to southern Illinois and southeastern Virginia. Grains suffered freeze damage, especially where advanced to jointing stage, notably in northeastern Texas and southeastern Missouri. Tung nut crop which in full bloom nearly all destroyed in middle Gulf area and northwestern Florida. Difficult to evaluate damage to agriculture and the related economy. Some tentative estimates of losses follow: Georgia - $10,000,000 to peaches and over $5,000,000 to other crops. South Carolina - $10,000,000 peach crop practically wiped out and additional damage to apples and other crops. North Carolina - $6,000,000 crop damage, nearly all of peaches and most apples destroyed. 3 persons died from exposure and contributing causes. Alabama - $8,000,000, including $3,000,000 to peaches, $3,000,000 to Irish potatoes, and $1,500,000 to pecans. Mississippi - $4,000,000 to tung nut crop and several millions to fruit and other crops. Louisiana - Several million to tung nut crop, fruits, and other crops. Tennessee - $10,000,000. Illinois - $3,000,000 to peaches and $5,000,000 to apples in southern quarter of State. Arkansas - Several million dollars. Texas - Over a million dollars.
Massachusetts, and extreme southern portions of Vermont and New Hampshire	27	All day				5	100,000		Wind	Widespread damage concentrated in Worcester County, Mass., where gusts above 75 m.p.h., recorded. Power and phone lines down in many areas, and downed trees blocked roads. Also, many antennas, chimneys, and signs blown down, and plate-glass windows smashed.
Ocean City (near), Md.	27				6				Wind	6 persons drowned when small boat capsized in rough waters.
	27									Minor storm also reported in Union County, N. J.
Adrian-Ontario area, Oreg.	29	10 a.m.	25	300-400	0	0	2,000	Slight	Tornado (suspected) wind, rain, and electrical	This storm occurred concurrent with passage of strong occluded front through Adrian to Ontario. Evidence that small tornado occurred. Several persons reported witnessing funnel cloud with counterclockwise rotation and hearing roar with it passage. It appears that strong, gusty winds caused most if not all the damage. Actual path of tornado appears to have been only a few hundred yards wide and not over 2 or 3 miles in length, but gusty winds of damaging force extended at least from Adrian to Ontario. Barn known to have been blown down. Windows broken. Cement-block wall under construction blown down. Numerous television antennas twisted badly, and some roofs damaged. Most serious damage to roof of high school where replacement cost expected to be about $900. Slight crop damage. Storm moved northeastward.
Colorado, eastern portion	30-31					Several	150,000	Heavy	Wind, rain, and dust	High winds, with droughty conditions in east-central and southeast, resulted in worst duststorm of record, reducing visibility to zero at many points and causing transportation difficulties and accidents. Precipitation occurring with storm caused "mud"

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

March 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Colorado (Cont'd)							$	$		storm in much of area on 31st. Considerable damage to roofs, transmission lines, and small structures resulted in southern half. Injuries resulted mostly from automobile accidents due to reduced visibility. Storm moved eastward.
Gainesville area, Cooke County, Tex.	31	3 p.m.			0	0	Unknown	0	Tornado (suspected), wind, rain, and hail	Suspected tornado caused heavy damage to farm buildings, homes, and equipment. Tornado moved northeastward.
Dallas area, Dallas County, Tex.	31	5 p.m.	10	*3		1	50,000		Wind, rain, and hail	Small home unroofed; trees and powerlines blown down, causing traffic hazard. Storm moved northeastward.
Lancaster, Dallas County, Tex.	31	5:25 p.m.							Wind, rain, hail, and electrical	Radio antenna blown down from police station; plate-glass window broken in store; a number of tree limbs downed. Hail fell in sheets for about 10 minutes, with stones about 3/4 inch in diameter. Storm moved northeastward.
Waurika, Jefferson County, Okla.	31	Afternoon			2				Dust	Passenger automobile badly damaged.
Kelleyville, Creek County, Okla.	31	6-6:30 p.m.	4	300	0	1	32,000	0	Tornado (possible) or wind	Storm moved northeastward. Damaged farm buildings and fences 4 miles southwest of Kelleyville, then lifted and came down again just south of Kelleyville. Large house raised from foundation and set down crosswise. Injury caused by glass broken by flying board. Many frame buildings totally destroyed, porches blown away, roofs damaged, and windmill blown over.
Texas County, Okla.	31	Afternoon and night	100	*100			500,000	Slight	Wind, hail, snow, and ice	Utility lines broken down in Texhoma, Goodwell, Stratford, Boise City, Keyes, and Guyman. Storm moved eastward.
Columbus, Colorado County, Tex.	31	9 p.m.					10,000	5,000	Rain, hail, and electrical	Hailstones 1/2 inch in diameter, some reported as large as golf balls, covered ground. Some neon signs damaged. Storm moved northeastward.
Edna area, Jackson County, Tex.	31	11 p.m.					45,000	50,000	Rain and hail	Severe roof and glass damage; more than 100 roofs damaged; 70 window panes broken in school gymnasium, also windows broken in hotel. Hailstones 2 inches in diameter. Storm moved southward.
Yoakum, Lavaca County, Tex.	31	11:15 p.m.							Hail	Heavy hail reported.
Antlers, Pushmataha County, Okla.	31	Evening					Moderate	Light	Thunderstorm and hail	Damage to roofs on farm buildings. Storm moved northeastward.
Wichita Falls, Wichita County, Tex.	31						10,000		Wind	Outdoor screen of drive-in theater damaged.
Rice's Crossing, Williamson County, Tex.	31					1			Wind	6 miles southeast of Taylor, boy injured by flying debris.
Lake Dallas, Denton County, Tex.	31				1				Wind	Boat capsized and 1 person believed drowned.
Waco (south of), McLennan County, Tex.	31				0	0	0	0	Tornado, rain, and hail	Funnel observed a few miles south of Waco, but broke up without touching ground.
Kansas, western third	31						No estimate	No estimate	Wind and dust	Serious soil erosion in southwestern Kansas and to lesser extent in northwest. This was third and probably most damaging of 3 especially severe duststorms in southwestern Kansas this spring and it contributed in major way to large wheat acreage abandonment in that area.
	31									Minor storm also reported at Jetmore, Hodgeman County, Kans.
	31									Minor storm also reported at Coweta, Okla.
	31									Minor storm also reported in Rogers County, Okla.
	31									Minor storm also reported in Ottawa County, Okla.
	31									Minor storm also reported in Bryan County, Okla.
	31									Minor storm also reported in Rockwall area, Tex.

* Miles instead of yards.
** Yards instead of miles.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

MARCH 1955

Major flooding occurred in the Ohio Basin during March. The overflow was generally the highest since April 1948. The highest stage since March 1929 was reached on the Levisa Fork of the Big Sandy River at Pikeville, Ky. The damages were heavy and will amount to several million dollars.

Record flooding occurred in the headwaters of the Tombigbee River at Aberdeen, Miss. Other flooding reported was mostly light to moderate.

ST. LAWRENCE DRAINAGE

The light to moderate flooding on the Maumee and St. Marys Rivers between February 28 and March 8 was due to moderate to heavy precipitation during the 24-hour periods ending at 7:30 a.m., on February 27 and March 1. Additional heavy precipitation occurred during the 24-hour period ending the morning of March 4. No damages were reported.

Flooding in the Genesee River Basin in New York, occurring between the 1st and 11th, was due to moderate to heavy rains on February 28 and March 1. Light precipitation through the 10th prolonged the flooding. Heavy precipitation at Warsaw, N. Y., caused Oatka Creek to overflow to a higher level than could be remembered in recent years. Several residents were forced to evacuate from their homes.

ATLANTIC SLOPE DRAINAGE

Minor flooding in the Missisquoi River at Richford, Vt., was due to ice action during the middle of the month. The ice piled to heights of 10 feet in places. Stores and homes along the north side of the river were damaged from the water which backed up because of the ice jam.

Flooding occurred in low places in the middle and upper reaches of the Mohawk River Basin in New York between the 1st and 3d due to locally heavy rains, snowmelt, and ice jams.

Light flooding occurred in the Chenango, Chemung, and Susquehanna River Basins in New York on March 1-2 and on March 11-13. Precipitation during the first rise was heaviest in the northern portion of the basins. Runoff was fairly rapid with snowmelt contributing to the runoff. Water equivalent of snow on the ground in the extreme northern portion of the Susquehanna and Chenango Basins was estimated at between 2 and 3 inches. High temperatures on the 10th and 11th conditioned the snow so that runoff on the 11th had considerable snowmelt added, and kept rivers and streams near the bankfull stage. No damage was reported.

There were two significant rises in the Potomac Basin during March. The first was due to prolonged heavy rains from the evening of the 3d through noon of the 6th. The storm lasted approximately 54 hours and precipitation averaged between 2 and 3 inches. Bankfull stage was reached at the Leiter Gage near Washington at 5 p.m., on the 7th. The second rise resulted from the heavy rain between the 21st and the 23d. Precipitation during the 48-hour period averaged between 1.5 and 2 inches. Light flooding resulted on the Monocacy at Frederick, Md., and on the lower Potomac at the Leiter Gage near Washington, D. C. No damage was reported during either rise.

The flooding in the James River in Virginia between the 6th and 9th was due to heavy rain between the 4th and 7th. During that period the rainfall totaled 3.65 inches in the Craig Creek area, 3 inches in the lower Maury River Basin, and from 2 to nearly 3 inches over the remainder of the James Basin. Heavy rain (1 to 1.6 inches) on the 20th-21st caused light flooding at State Farm on the James. Some damage resulted to secondary roads over tributary streams in several counties; two schools were closed in Buchanan County.

The heavy rain (1.8 inches) from the 4th to the 7th caused the Roanoke River to rise slightly above flood stage at Randolph, Va., and Williamston, N. C. There were no reports of damage or economic loss due to the overflows.

EAST GULF OF MEXICO DRAINAGE

Excessive precipitation over the headwaters of the Tombgibee and Black Warrior Rivers from March 20 to 22 produced a record stage of 45.3 feet, 11.3 feet above flood stage at Aberdeen, Miss. The previous record stage of 44.1 feet was established in February 1948. The total storm rainfall during this period averaged over 9 inches over a large area across the watershed. The previous highest storm average over the upper Tombigbee was 7.35 inches in February 1948. Due to previous low stages and lighter precipitation downstream the crest flattened out considerably below Aberdeen and a crest of 37.5 feet was reported at Columbus, Miss., which was well below the record for that station. Flood damage was severe in the Amory-Aberdeen section and serious in the Columbus area.

The Pearl River was above flood stage, but falling in the beginning of the month at Jackson, Miss., and Bogolusa, La. A crest of 13.9 feet occurred at Pearl River, La., on March 2. This rise resulted from the rainfall during the latter part of February. Heavy rain (3 to 4 inches) over the headwaters of the Pearl on the 20th resulted in sharp rises over the upper and middle reaches of the Pearl to above bankfull stage at Jackson, Miss., on the 27th. Little or no damage was reported from the flooding.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Heavy snow cover continued over north-central and northeastern Minnesota from St. Cloud, Minn., on the Mississippi River upstream until the 29th when warm weather set in.

In the reach below St. Paul, Minn., to Prairie du Chien, Wis., snowmelt produced some marked rises in tributaries in southern Minnesota early in March. There was a high rate of infiltration into the soil and flooding would not have occurred had no ice gorges or jams formed on the Root, Zumbro, and Whitewater Rivers. Only minor damages resulted.

The flooding in the Meramec River from the 21st to the 24th was due to moderate rains (1.00 to 1.25 inches) on the 20th. No damage resulted from the slight overflows.

Navigation on the Mississippi River at St. Paul was officially declared open by the St. Paul District of the Corps of Engineers on the 28th at 3 p.m. with the arrival of the U. S. Coast Guard ice breaker. The first tug with barges arrived on the 31st.

Missouri Basin.--Winter snowfall was generally below normal in the Missouri River Basin from below Bismarck, N. Dak., to Sioux City, Iowa. On March 1, the heaviest snow cover ranged from 7 to 10 inches and extended from Valentine, Nebr., and Pierre, S. Dak., northeastward over the northeast quarter of South Dakota. Elsewhere in this area the snow cover was 2 to 4 inches, except mostly reduced to drifts in southwestern South Dakota.

A moderate warming trend set in, over the northern Great Plains, during the first week of March. This was the beginning of the spring thaw. The warming increased to 10° to 20° above normal during the second week of March and most of the snow cover was melted from western Iowa to eastern Montana. Much of the soil frost thawed; so that the soil absorbed much of the melted snow.

The ice in several streams including the Missouri at Sioux City, Iowa, and Yankton, S. Dak., broke up on the 12th. The breakup on these streams was of little consequence and caused only minor rises. The ice-breakup had advanced as far as Mobridge, S. Dak., by the 31st. No damage resulted.

Ohio Basin.--Runoff into the Ohio from the storm period of February 26 to March 2 caused minor flood conditions in the main river at Dam 28, Huntington, W. Va., and a definite crest downstream as far as Dam 33, at Maysville, Ky., on March 4. This storm caused light flooding in the Allegheny and Monongahela Rivers between the 5th and 7th. The rainfall averaged 1.50 inches over the upper portion and 0.50 to 0.75 inch over the lower portion. Before this crest could show up on the main stem below Dam 33 the second heavy rain period of the month was in progress. This storm of March 4 to 7 also covered the entire basin with heaviest amounts again concentrating in eastern Kentucky and in West Virginia with over 3 inches covering a large area and several stations reporting over 4 inches. The additional runoff from this storm caused the rise to the major flood crest on the Ohio.

The highest stage since March 1929 was reached on the Levisa Fork of the Big Sandy River at Pikeville, Ky. Very little damage, however, was reported. At Prestonsburg, Ky., the next town downstream from Pikeville, there was considerable flooding, with one section of the business district inundated up to 3 feet. This was the first time this town had been flooded since March 1929. At Paintsville, Ky., the town was flooded in several low sections that have been built in the past 6 years. Several families were forced to move because of the high water.

There was considerable damage in the headwaters of the Tug Fork of the Big Sandy River in the vicinity of Welch, W. Va. In the village of Bishop, W. Va., up to 12 feet of water was reported. At Matewan, Red Jacket, and Williamson, W. Va., this was the worst flood in their history. The crest at Williamson was estimated to be 1.2 feet below the crest of the highest stage of record, 38.1 feet in 1918. The damage was higher than in 1918 as low sections of the town have been developed in recent years and 10 business places were flooded. At Chatteroy, W. Va., about 4 miles downstream from Williamson, about 25 homes were flooded. At Louisa, Ky., on the Big Sandy, the highest stage since 1939 was recorded.

On the Guyandotte River in the vicinity of Mullins, W. Va., the flood damages were extremely heavy. In the town of Mullins, 15 homes and 7 business places were flooded. At Logan, W. Va., the crest stage was about 2 feet below the highest stage of record, but the property damage was far greater than any previous flood. It is estimated that more than 300 families were forced to move. The only town below Logan that was flooded extensively was Harts, W. Va., where 15 homes and 6 business places were flooded.

The flooding along the Scioto River in Ohio was confined mostly to lowlands. In the Wabash Basin in Indiana, flood stage was exceeded by more than 8 feet at Wabash. About 100 persons in that area were evacuated by the Police Department and Red Cross. Flood crests elsewhere in the Wabash and White Basins were considerably lower.

The moderate flooding on the Cumberland River in Kentucky and Tennessee between the 17th and 28th was due to heavy rains which began on the 12th and continued until the 22d. The rainfall during that period averaged 6 inches from Williamsburg, Ky., to Wolf Creek Dam and about 7 inches from Wolf Creek Dam to Nashville, Tenn.

The heavy rains over the Tennessee River Basin during the 48-hour period ending on the 22d resulted in several Tennessee River tributaries not subject to regulation to rise above flood stage. Most serious of these were the floods on the Elk River at Fayetteville, Tenn., and the Duck River at Shelbyville, Tenn., and Columbia, Tenn. The flood at Fayetteville reached a crest of 666.4 feet on the Weather Bureau staff gage, approximately 7.5 feet above flood stage, and only 0.5 foot below the crest reached there in January 1954. The U. S. Geological Survey gage located about 2 miles downstream recorded a crest of 23.65 feet, which is 5.65 feet above flood stage at that point and about 1 foot below the crest that was reached there in January 1954. The flood on the Duck River at Shelbyville, Tenn., was the fourth highest of record. The crest recorded on the Geological Survey gage near Shelbyville was 32.84 feet, which is about 3.6 feet below the great flood of February 1948, and 7.2 feet below the highest flood of record of March 1902. Damages at Shelbyville were quite heavy. The crest of 44.78 feet recorded on the Duck River at Columbia, Tenn., was the third highest of record and was exceeded only by the great flood of February 1948 which reached a crest of 51.78 feet and the flood of March 1902 which reached a crest of 48.0 feet. Since the great flood of February 1948, most vulnerable installations in the city have been removed to higher ground, so that damages from the flood at Columbia were limited mainly to roads and a few homes. Along Little Bigbe Creek, about 5 miles below Columbia, a large housing development was inundated by backwater from the Duck River and damages were heavy. Due to heavy inflows, discharge at all dams on the Tennessee River below Chattanooga, Tenn., were increased causing flood stages and backwater flooding below Kentucky, Pickwick, and Guntersville Dams.

Flooding occurred along the main stem of the Ohio from Midland, Pa. (Dam 7) to Cairo, Ill. Overflow in the upper portion from below Wheeling, W. Va., at Dam 15 to Dam 22 (Ravenswood, W. Va.) was comparatively light. Overflows from Millwood, W. Va., at Dam 23 to Cairo, Ill., a distance of 750 miles, were of major proportions. The lower Ohio was in flood the entire month. At Cincinnati, Ohio, the river reached a crest of 61.0 feet on the 10th, 9.0 feet above flood stage. This was the first time that the Ohio had reached flood stage at Cincinnati since March 26, 1952. It was also the highest stage recorded at this point since April 1948. The Ohio River remained above the 40-foot stage at Cincinnati for a record-breaking time of 29 days. The depth of overflow below this point ranged from 2.5 feet at Evansville, Ind., to about 16 feet at Fords Ferry, Ky. (Dam 50). The damages were rather high and will amount to several million dollars.

White, Arkansas, and Red Basins.--The overflows in the White, Arkansas, and Red Basins during the last decade of the month were due to heavy precipitation between the 18th and 22d. It was the first flooding in the White and Arkansas Basins since May 1954 and in the Red Basin since October 1954. Rainfall amounts ranged up to more than 8 inches in the southeastern part of Arkansas. Damages from the high water were minor and were more than offset by the benefits received in replenishing soil moisture as the ground was extremely dry in that area.

Lower Mississippi Basin.--The flooding in the St. Francis Basin during the last decade of the month was due to moderate rains on the 18th and 20th and heavy rains on the 21st. The damage was light.

In the Coldwater, Tallahatchie, and Yazoo Basins the overflows were due to heavy rains on the 20th and 21st. The rainfall during that period averaged 4 to 5 inches with Pontotoc, Miss., reporting 11.07 inches during 20 hours from 8 p.m. on the 20th to 4 p.m. on the 21st. Another heavy concentration of rain fell at about the same time west of Greenwood, Miss., on the Sunflower River where Sunflower, Miss., reported 8.3 inches. Approximately 275,000 acres were reported inundated in the headwaters of the Yazoo Basin.

The heavy rains during the last 10 days of February caused the Mississippi River and tributaries to rise moderately during March. Additional heavy rains over the Ohio and Tennessee Basins on the 4th, 5th, and 6th and in the Cumberland and Tennessee Basins on the 21st and 22d increased the discharge, causing the Mississippi River to rise to above flood stage at Caruthersville, Mo., and Memphis, Tenn., on the 25th and 29th, respectively. Caruthersville crested at 37.8 feet on March 30th which was the highest stage reached at this point since March 1952.

WEST GULF OF MEXICO DRAINAGE

Minor flooding occurred in the Sabine River Basin during the last decade of the month. Damages were insignificant.

FLOOD STAGE DATA

Table 5

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			*Ft.*	
ST. LAWRENCE DRAINAGE Lake Erie					
Maumee: Fort Wayne, Ind	15	1 4	2 8	16.1 18.0	1 4
St. Mary's: Decatur, Ind.	15	Feb 28	8	21.6	4
Lake Ontario					
Genessee: Scio, N. Y.	6	1 4 11	2 6 11	8.7 7.0 8.0	1 5 11
Black Creek: Churchville, N Y	5	1	3	6.2	2
Oatka Creek: Garbutt, N. Y.	5	1	3	7.9	2
ATLANTIC SLOPE DRAINAGE					
Chenango: Whitney Point, N. Y.	12	1	2	E12.5	1
Chemung: Chemung, N. Y.	12	11	13	E14.6	11
Susquehanna: Bainbridge, N. Y.	13	12	13	13.5	12
Conklin, N Y.	11	1 12	2 14	12.0 12.7	2 13
Monacacy: Frederick, Md.	15	23	23	E16.0	23
Potomac: Washington (nr.), D.C.	10	7 23	7 25	10.0 11.5	7 23
James: Buchanan, Va.	17	6	7	19.0	7
Scottsville, Va.	20	7	7	20.1	7
Bremo Bluff, Va.	19	6	8	25.2	7
Columbia, Va.	18	6	9	26.0	7
State Farm, Va.	12	7 24	9 24	**17.5 **13.0	8 24
Richmond, Va.	8	7	9	12.2	9
Roanoke:					
Randolph, Va.	21	6	7	21.3	7
Williamston, N. C.	10	9 17	14 21	**10.4 10.3	13 20
EAST GULF OF MEXICO DRAINAGE					
Black Warrior:					
Tuscaloosa Lock & Dam, Ala.	47	23	24	50.3	23
Tombigbee:					
Aberdeen, Miss.	34	22	28	45.3	23
Columbus, Miss.	29	25	29	37.5	25
Gainesville, Ala.	36	28	#	44.6	Apr. 3
Demopolis, Ala.	42	25	#	48.3	28
Whitfield, Ala., Lock 3	33	Feb. 24 23	5 #	43.3 47.5	Feb. 28 29
Pennington, Ala., Lock 2	46	26	#	48.8	30
Jackson, Ala., Lock 1	31	2 28	3 #	31.2 33.2	2 Apr 2
Pearl:					
Jackson, Miss.	18	Feb. 22 27	7 Apr. 3	26.1 20.0	Feb 27 Apr 1
Bogolusa, La.	15	Feb. 23	12	18.9	Feb 27-28
Pearl River, La.	12	Feb. 27	8	13.9	2
MISSISSIPPI SYSTEM Upper Mississippi Basin					
Zumbro: Theilman, Minn.	35	11	13	37.6	12
Whitewater: Beaver, Minn.	7	10	10	7.9	10
Root: Hokah, Minn.	47	10	11	49.7	10
Illinois:					
La Salle, Ill.	20	1	1	**20.4	1
Havana, Ill.	14	Feb. 24	7	**14.4 **14.3 14.7	Feb. 25 2 4
Meramec:					
Steelville, Mo.	12	21	21	12.6	21
Sullivan, Mo.	11	21	22	14.4	21
Pacific, Mo.	11	22	24	15.4	23
Valley Park, Mo.	14	23	24	16.7	23
Ohio Basin					
Allegheny: Olean, N. Y.	10	1 5	3 7	12.0 10.6	1 6
Monongahela:					
Lock 4, Charleroi, Pa.	24	2 5	2 6	24.0 28.5	2 5
MISSISSIPPI SYSTEM (Cont'd.) Ohio Basin (Cont'd.)					
Monongahela (Cont'd.):					
Lock 2, Braddock, Pa.	26	2 5	2 6	26.1 27.7	2 5
Hocking:					
Enterprise, Ohio	12	5	6	13.1	5
Athens, Ohio	17	6	6	17.2	6
Greenbrier: Alderson, W. Va.	14	5	6	16.8	6
Gauley:					
Summersville, W. Va	18	5	5	19.0	5
Belva, W Va.	20	--	--	23.0	5
Elk:					
Sutton, W. Va.	25	5	5	25.0	5
Caly, W. Va	18	6	6	18.45	6
Kanawha: Winfield Dam, W. Va.	46	7	7	46.8	7
Guyandotte:					
Logan, W. Va	20	Feb. 28 Feb. 28 6	Feb 28 1 7	20.1 25.2 21.9	Feb. 28 Feb. 28 7
Branchland, W. Va.	30	Feb. 28 6 17	3 8 17	42.6 39.0 30.1	1 7 17
Tug Fork: Kermit W. Va.	38	Feb. 28 7	2 7	---- ----	-- --
Levisa Fork:					
Pikeville, Ky.	35	Feb. 28 6 16	Feb. 28 7 17	36.7 39.1 37.1	Feb. 28 7 17
Paintsville, Ky.	40	1	2	41.4	1
Big Sandy: Louisa, Ky.	45	Feb. 28 6	3 9	52.6 50.7	2 2
Scioto:					
La Rue, Ohio	11	5 12 22	5 12 23	**12.3 **11.1 **11.1	5 12 23
Prospect, Ohio	10	6	6	**10.6	6
Circleville, Ohio	14	23	24	**15.8	23
Chillicothe, Ohio	16	24	24	**15.7	24
Piketon, Ohio	16	1 5 22	3 7 25	19.3 19.5 20.7	2 6 23
Paint Creek: Bourneville, Ohio	10	1 5 21	1 5 23	11.8 11.4 13.9	1 5 22
Licking: Farmers, Ky.	25	5	5	25.6	5
Kentucky:					
Jackson, Ky.	29	Feb. 27 7 17 22	2 7 17 22	37.3 31.0 29.3 29.1	Feb. 28 7 17 22
Lock 4, Frankfort, Ky.	31	2 22	7 23	37.0 31.7	6 22
Salt: Boston, Ky.	40	1 23	3 24	**41.4 **40.8	2 23
Barren: Bowling Green, Ky.	28	22	25	40.7	23
Rough: Dundee, Ky.	25	1	5	26.8	2
Green:					
Munfordville, Ky	28	1 22	4 26	**33.1 38.5	3 24
Lock 6, Brownsville, Ky.	28	Feb. 28 21	6 27	33.8 **38.4	3 25
Lock 4, Woodbury, Ky.	33	Feb. 22 18	10 30	41.4 47.0	4 25
Lock 2, Rumsey, Ky.	34	Feb 25	#	41.5 42.9	10 30
Wabash:					
Bluffton, Ind.	10	1	4	11.2	4
Wabash, Ind.	12	1 23	6 23	20.5 12.9	4 23
Lafayette, Ind.	11	1 23	8 24	17.0 12.4	6 24
Covington, Ind.	16	3	9	19.4	8
Montezuma, Ind.	14	2	10	16.8	9
Terre Haute, Ind.	14	8	10	14.7	9
Mt. Carmel, Ill.	17	7	11	17.3	10
White: Anderson, Ind.	10	2 22	2 22	10.2 10.1	2 22

FLOOD STAGE DATA

Table 5-Continued

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.) Ohio Basin (Cont'd.)	Ft.			Ft.	
White (Cont'd.):					
Petersburg, Ind.	16	Feb. 23 17 21	11 17 29	20.3 16.2 19.2	7 17 24
Cumberland					
Williamsburg, Ky.	21	17 23	25 23	25.9 25.8	19 23
Nashville, Tenn.	40	21	25	46.5	23
Clarksville, Tenn	46	21	26	54.9	24
Eddyville, Ky., Lock F	50	26	Apr 5	**62.4	26
Emory: Oakdale, Tenn.	23	22	22	27.3	22
So. Chickamauga Creek:					
Chickamauga, Tenn.	10	22	24	13.1	22
Elk: Fayetteville, Tenn.	659	21	24	666.4	22
Duck:					
Centerville, Tenn.	22	21	26	32.0	22
Columbia, Tenn.	32	21	25	44.8	23
Shelbyville (nr.), Tenn.	719	21	23	731.9	22
Tennessee:					
Gilbertsville, Ky.	320	Feb 23	#	336.4	24
Savannah, Tenn.	380	22	28	385.6	24
Florence, Ala.	419	21	28	426.9	23
Whitesbury, Ala.	560	21	29	565.6	24
Ohio:					
Dam 7, Midland, Pa.	30	1	6	32.2	5
Dam 13, McMechen, W. Va.	37	5	6	38.8	5
Marietta, Ohio	35	5	7	38.1	6
Parkersburg, W. Va.	36	5	7	**38.3	6
Dam 22, Ravenswood, W. Va.	44	6	8	45.4	7
Point Pleasant, W. Va.	40	1 5	4 10	41.7 51.9	3 8
Gallipolis Dam, Hogsett, W. Va	50	6	10	57.5	8
Dam 28, Huntington, W. Va.	50	2 5	4 10	51.7 59.5	3 8
Dam 29, Ashland, Ky.	51	1	11	63.2	8
Dam 30, Greenup, Ky.	52	1	11	63.0	8
Portsmouth, Ohio	50	1	11	60.6	8
Dam 33, Maysville (nr.), Ky.	50	1	12	60.3	9
Cincinnati, Ohio	52	2	13	61.0	10
Dam 39, Markland (nr.), Ind.	48	3	13	53.8	10
Madison, Ind.	46	3	14	52.4	10-11
Dam 41, Louisville, Ky. (upper)	28	2 22	15 25	**36.8 **29.0	10-11 23-24
Dam 31, Louisville, Ky. (lower)	55	2 22	15 25	**63.8 **55.9	10-11 23-24
Dam 43, Evans Landing, Ind.	57	3 23	15 25	64.8 **57.5	11 24
Dam 44, Leavenworth, Ind	53	1	28	64.1 **57.5	12 24
Dam 45, Addison, Ky.	47	1	28	**55.0 **50.2	12 24
Tell City, Ind.	38	Feb. 28	30	**43.6	25
Dam 46, Owensboro, Ky.	41	3	28	45.3 42.4	11 24
Dam 47, Newburgh, Ind.	38	Feb. 27	#	46.9 44.8	12 25
Evansville, Ind.	42	4	28	44.5 42.6	13 25
Dam 48, Cypress, Ind.	38	Feb. 28	#	47.0 44.8	14 26
Mt. Vernon, Ind.	35	Feb. 28	#	**42.6	28
Dam 49, Uniontown, Ky.	37	2	#	**44.6	28
Shawneetown, Ill.	33	Feb. 27	#	**45.3	28
Dam 50, Fords Ferry, Ky.	34	Feb. 26	#	49.8 48.7	14 27
Dam 51, Golconda, Ill.	40	7	Apr. 5	46.9	27-28
Paducah, Ky.	39	23	Apr. 5	47.5	29

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.) Ohio Basin (Cont'd.)	Ft			Ft	
Ohio (Cont'd.):					
Dam 52, Brookport, Ill.	37	Feb. 27	Apr. 6	49.2	29
Dam 53, Mound City (nr.), Ill.	42	Feb. 27	Apr. 7	52.9	28-29
Cairo, Ill.	40	Feb. [illegible]	Apr. 7	50.1	28
White Basin					
Black: Poplar Bluff, Mo.	16	22	22	16.9	22
Black Rock, Ark.	14	21	31	19.5	23
Little Red:					
Heber Springs, Ark.	24	21	[illegible]	31.2	22
Judsonia, Ark.	30	22	29	34.1	23
White: Georgetown, Ark.	21	25	25	21.0	25
Clarendon, Ark.	26	27	31	26.9	31
St. Charles, Ark.	25	30	31	25.2	31
Arkansas Basin					
Illinois: Tahlequah, Okla	11	21	22	E13.3 **12.8	22 22
Poteau: Poteau, Okla	24	20	21	**27.2	21
Petit Jean: Danville, Ark.	20	21	23	21.6	22
Red Basin					
Little Missouri: Boughton, Ark.	20	22	23	21.2	23
Saline: Benton, Ark.	20	21	21	20.2	21
Ouachita: Camden, Ark.	27	23	31	34.4	26
Little: Whitecliffs, Ark	25	22	27	27.0	24
Sulphur: Naples, Tex.	22	24	29	26.5	25
Lower Mississippi Basin					
St. Francis					
Fisk, Mo.	20	21	Apr. 1	23.9	24, 25
St. Francis, Ark.	18	26	Apr. 6	20.5	28, 29, 30
Mississippi:					
New Madrid, Mo.	34	16	Apr. 7	39.9	29
Caruthersville, Mo.	32	16	Apr. 6	37.8	30
Memphis, Tenn.	34	29	Apr. 6	35.3	Apr. 2
Helena, Ark.	44	Apr. 3	Apr. 5	44.1	Apr. 4
WEST GULF OF MEXICO DRAINAGE					
Sabine:					
Mineola, Tex.	14	22	26	16.8	23
Gladewater, Tex.	26	28	30	26.4	29

* Provisional
** Highest Stage Reported but not necessarily the crest
# Continued at end of month
E Estimated

RADIOSONDE DATA

Average monthly values

Table 20

MARCH 1955

Standard pressure surface (mb)	ALBUQUERQUE, N. MEX. (835 MB.)				ANCHORAGE, ALASKA (1007 MB.)				ANNETTE, ALASKA (1012 MB.)				ATLANTA, GA. (982 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,619	9.7	25	31	42	- 1.7	54	31	37	1.5	74	31	309	12.2	68
1000	31	93			31	97			31	131			31	154		
950	31	537			31	496	- 3.7	51	31	543	- 2.3	75	31	588	13.0	57
900	31	998			31	949	- 6.2	53	31	968	- 5.1	77	31	1,040	11.1	56
850	31	1,474			31	1,363	- 8.6	54	31	1,414	- 7.6	77	31	1,514	8.2	58
800	31	1,978	8.3	23	31	1,830	-11.2	55	31	1,884	-10.1	72	31	2,013	5.8	57
750	31	2,510	4.4	25	31	2,327	-13.1	52	31	2,383	-12.6	70	31	2,549	4.1	49
700	31	3,064	- .2	30	31	2,846	-16.0	53	31	2,903	-15.2	65	31	3,099	1.6	40
650	31	3,656	- 5.0	35	31	3,405	-19.0	54	30	3,469	-18.0	60	31	3,695	- 1.8	40
600	31	4,275	- 9.5	39	31	3,992	-22.6	51	30	4,056	-21.4	56	31	4,325	- 5.7	39
550	31	4,945	-14.2	38	31	4,625	-26.8	49	30	4,696	-25.2	49	31	5,003	-10.3	39
500	31	5,658	-19.2	33	31	5,306	-31.2	45	30	5,379	-29.5	48	31	5,728	-15.5	42
450	31	6,445	-24.7		31	6,051	-35.8	44	30	6,127	-34.7	49	31	6,525	-21.0	39
400	31	7,290	-30.5		31	6,855	-40.8		30	6,935	-40.3		31	7,376	-27.0	43
350	31	8,215	-37.4		31	7,753	-46.2		30	7,833	-46.3		31	8,325	-34.0	41
300	31	9,262	-44.5		30	8,762	-51.7		30	8,844	-51.3		31	9,387	-41.9	
250	31	10,461	-52.3		30	9,935	-53.7		30	10,015	-54.8		31	10,597	-51.0	
200	31	11,884	-57.0		28	11,372	-52.3		29	11,452	-54.0		31	12,027	-55.9	
175	31	12,729	-56.6		28	12,237	-51.5		29	12,309	-53.4		30	12,878	-56.2	
150	31	13,705	-57.1		27	13,237	-51.3		29	13,300	-53.7		30	13,852	-58.9	
125	30	14,850	-60.1		26	14,414	-52.3		28	14,462	-54.5		27	14,979	-62.6	
100	30	16,228	-63.8		23	15,846	-52.9		27	15,887	-55.9		20	16,339	-66.2	
80	24	17,577	-66.5		20	17,281	-54.4		21	17,291	-57.1		13	17,691	-68.3	
60	15	19,317	-64.8		18	19,109	-55.6		16	19,116	-57.9		9	19,411	-67.1	
50	10	20,440	-62.4		16	20,259	-56.1		13	20,275	-58.3		8	20,514	-65.0	
40					10	21,660	-56.9		5	21,682	-56.7		8	21,881	-62.4	
30													7	23,715	-53.8	

Standard pressure surface (mb)	BARROW, ALASKA (1024 MB.)				BETHEL, ALASKA (1011 MB.)				BISMARCK, N. DAK. (954 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	8	-26.1	52	31	4	- 6.8	81	31	505	- 5.9	69
1000	31	177	-25.6	73	31	84			31	128		
950	31	560	-21.3	74	31	490	- 7.1	68	31	538		
900	31	952	-18.7	70	31	905	- 8.2	63	31	960	- 5.5	60
850	31	1,379	-17.9	62	31	1,347	- 9.7	60	31	1,406	- 7.4	58
800	31	1,831	-18.9	56	31	1,813	-11.4	60	31	1,876	- 9.5	55
750	31	2,321	-20.4	53	31	2,312	-13.7	60	31	2,380	-11.4	54
700	31	2,818	-22.7	47	31	2,827	-16.4	58	31	2,897	-14.5	54
650	31	3,371	-25.6	44	31	3,392	-19.3	56	31	3,464	-18.3	54
600	31	3,936	-28.6	42	31	3,972	-22.3	54	31	4,047	-21.8	55
550	31	4,564	-31.5	39	31	4,611	-26.3	53	31	4,686	-25.8	54
500	31	5,224	-35.4		31	5,289	-30.8	51	31	5,366	-30.6	53
450	31	5,961	-39.9		31	6,035	-35.6	50	31	6,115	-35.6	52
400	31	6,747	-44.6		31	6,839	-40.8		31	6,916	-40.8	
350	31	7,630	-49.5		31	7,735	-47.3		31	7,813	-46.4	
300	30	8,628	-53.4		31	8,740	-52.3		31	8,825	-50.8	
250	30	9,798	-53.5		31	9,912	-54.0		31	10,004	-53.1	
200	30	11,241	-50.7		31	11,350	-51.8		30	11,441	-52.8	
175	29	12,114	-50.5		31	12,215	-51.2		30	12,305	-51.9	
150	28	13,121	-50.8		31	13,216	-51.5		30	13,302	-52.4	
125	28	14,305	-51.8		30	14,396	-51.9		30	14,474	-54.4	
100	22	15,761	-52.8		29	15,837	-53.0		29	15,901	-55.6	
80	16	17,206	-53.4		29	17,272	-54.2		28	17,320	-57.1	
60	14	19,063	-54.8		25	19,112	-55.3		23	19,144	-58.5	
50	11	20,234	-55.8		22	20,288	-55.2		17	20,299	-58.8	
40					15	21,713	-54.7		12	21,695	-58.2	
30					9	23,565	-54.3		6	23,494	-58.6	

Standard pressure surface (mb)	BOISE, IDAHO (917 MB.)				BROWNSVILLE, TEX. (1015 MB.)				BUFFALO, N. Y. (991 MB.)				BURRWOOD, LA. (1019 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	868	2.2	61	31	7	19.9	82	31	182	- 0.6	80	30	3	17.1	87
1000	31	164			31	131	19.2	81	31	107			30	161	17.7	78
950	31	586			31	578	17.3	76	31	521			30	601	15.2	70
900	31	1,022	2.7	50	31	1,033	16.3	58	31	948	- 3.0	71	30	1,055	12.8	57
850	31	1,482	- .2	50	31	1,519	15.3	44	31	1,399	- 5.2	70	30	1,534	11.1	49
800	31	1,965	- 3.5	53	31	2,031	14.2		31	1,873	- 7.5	66	30	2,039	9.5	41
750	31	2,479	- 6.9	57	31	2,579	12.1		31	2,376	- 9.7	59	30	2,581	8.0	36
700	31	3,007	-10.1	56	31	3,149	8.9		31	2,903	-12.3	57	30	3,140	5.7	29
650	31	3,582	-13.5	58	31	3,759	4.8		31	3,473	-14.9	55	30	3,746	1.7	
600	31	4,180	-16.9	51	31	4,404	- .1	30	30	4,062	-18.7	57	30	4,383	- 2.3	
550	31	4,833	-21.2	49	31	5,094	- 4.9		30	4,710	-22.9	57	30	5,071	- 6.6	
500	31	5,524	-25.7	46	31	5,837	-10.1		30	5,397	-27.4	53	30	5,806	-11.7	
450	31	6,290	-30.6	42	31	6,648	-15.8		30	6,158	-32.3	50	30	6,615	-17.5	
400	31	7,108	-36.1	43	31	7,519	-22.4		30	6,969	-37.6	47	30	7,476	-24.1	
350	31	8,022	-42.3		31	8,485	-30.0		30	7,878	-43.3		30	8,435	-31.4	
300	31	9,048	-49.2		31	9,564	-38.6		29	8,901	-48.5		30	9,506	-40.4	
250	31	10,226	-55.0		30	10,789	-48.1		28	10,082	-53.2		29	10,723	-49.3	
200	31	11,644	-56.7		29	12,235	-54.9		25	11,496	-54.1		29	12,165	-55.0	
175	31	12,492	-55.5		29	13,083	-57.9		25	12,355	-53.3		29	13,012	-57.8	
150	31	13,476	-55.3		29	14,043	-62.8		24	13,340	-54.2		26	13,974	-61.7	
125	30	14,636	-56.7		27	15,155	-68.1		20	14,492	-54.8		25	15,088	-66.6	
100	28	16,034	-58.9		26	16,482	-72.2		19	15,921	-56.5		23	16,425	-70.7	
80	21	17,434	-58.8		19	17,788	-74.8		16	17,329	-58.7		19	17,754	-72.8	
60	17	19,231	-59.9		10	19,466	-74.9		9	19,186	-59.7		13	19,434	-71.7	
50	8	20,410	-59.7		8	20,531	-71.8		6	20,340	-59.3		12	20,515	-69.1	
40					7	21,866	-66.5						10	21,870	-62.7	
30																

Standard pressure surface (mb)	CARIBOU, ME. (986 MB.)				CHARLESTON, S. C. (1017 MB.)				COLUMBIA, MO. (987 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	191	- 6.6	75	31	13	13.5	77	31	238	5.9	61
1000	30	74			31	156	14.9	67	31	124		
950	30	479	- 7.1	68	31	596	14.4	56	31	549	5.8	56
900	30	896	- 9.0	70	31	1,045	12.0	56	31	986	3.6	59
850	30	1,337	-10.4	68	31	1,522	9.6	56	31	1,449	1.6	55
800	30	1,803	-11.4	66	31	2,023	7.2	52	31	1,936		49
750	30	2,304	-12.9	64	31	2,560	4.6	43	31	2,456	- 2.3	44
700	30	2,820	-15.1	59	31	3,111	2.1	36	31	2,996	- 4.8	40
650	30	3,385	-18.0	59	31	3,711	- 1.3	36	31	3,579	- 8.5	39
600	30	3,971	-21.6	59	31	4,339	- 5.0	34	31	4,191	-12.5	41
550	30	4,609	-25.5	58	31	5,023	- 9.4	32	31	4,853	-16.8	41
500	30	5,291	-30.3	57	31	5,747	-14.3	32	31	5,559	-21.4	43
450	30	6,041	-35.5	57	31	6,547	-19.9	36	31	6,335	-26.5	
400	30	6,844	-40.5		31	7,400	-26.0	40	31	7,168	-32.6	
350	28	7,747	-45.2		31	8,353	-33.2	37	31	8,095	-39.5	
300	27	8,775	-48.8		31	9,418	-41.3		31	9,133	-46.4	
250	27	9,962	-52.5		31	10,633	-49.8		31	10,322	-53.8	
200	25	11,414	-52.2		31	12,067	-56.2		31	11,743	-56.3	
175	25	12,278	-51.8		31	12,914	-57.3		30	12,591	-55.5	
150	24	13,282	-51.8		31	13,882	-59.8		27	13,570	-56.2	
125	24	14,459	-53.4		30	15,010	-63.8		27	14,722	-58.6	
100	24	15,889	-54.9		29	16,372	-67.6		25	16,111	-61.6	
80	21	17,315	-56.0		23	17,705	-69.5		21	17,487	-63.8	
60	21	19,135	-57.8		14	19,418	-69.2		14	19,246	-62.9	
50	15	20,273	-58.3		12	20,516	-66.3		9	20,366	-61.1	
40	9	21,703	-57.6		9	21,886	-61.6		5	21,744	-58.8	
30					9	23,697	-54.7					

Standard pressure surface (mb)	DODGE CITY, KANS. (922 MB.)				EL PASO, TEX. (880 MB.)				ELY, NEV. (807 MB.)				FAIRBANKS, ALASKA (997 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	792	5.2	44	31	1,195	15.3	24	31	1,908		55	31	135	- 6.6	64
1000	31	119			31	98			31	154			31	110		
950	31	548			31	544			31	590			31	509	- 7.6	55
900	31	991	6.7	37	31	1,006			31	1,030			31	930	- 9.3	54
850	31	1,458	5.1	34	31	1,493	14.1	23	31	1,491			31	1,370	-11.3	54
800	31	1,951	2.7	32	31	2,000	10.4	25	31	1,983	1.7	48	31	1,833	-13.2	51
750	31	2,477	.3	30	31	2,534	6.5	27	31	2,509	- 1.1	43	31	2,326	-15.7	51
700	31	3,023	- 1.9	30	31	3,095	2.7	30	31	3,047	- 5.2	47	31	2,840	-18.6	53
650	31	3,612	- 6.0	30	31	3,690	- 1.7	35	31	3,631	- 9.1	49	31	3,396	-21.6	52
600	31	4,220	-10.4	30	31	4,321	- 6.2	38	31	4,240	-12.9	44	31	3,975	-25.2	56
550	31	4,900	-15.3		31	4,997	-10.8	39	31	4,901	-17.0	42	31	4,605	-28.9	55
500	31	5,606	-20.2		30	5,719	-16.2	42	31	5,607	-21.7	36	31	5,278	-33.1	56
450	31	6,387	-25.6		30	6,512	-21.7	43	31	6,385	-26.7	34	31	6,016	-37.7	56
400	31	7,222	-31.9		29	7,363	-28.0	43	31	7,216	-32.1		31	6,814	-43.0	
350	31	8,153	-38.5		28	8,306	-35.2		30	8,142	-39.3		31	7,702	-48.5	
300	30	9,192	-45.6		27	9,362	-42.9		30	9,180	-46.7		31	8,704	-52.8	
250	30	10,386	-53.0		26	10,569	-51.5		30	10,368	-54.2		30	9,874	-54.1	
200	30	11,808	-56.4		21	12,010	-56.3		30	11,783	-57.0		30	11,309	-51.9	
175	30	12,657	-55.1		21	12,854	-57.4		30	12,629	-56.7		29	12,173	-51.1	
150	30	13,638	-56.4		20	13,821	-59.4		30	13,604	-57.2		28	13,171	-51.0	
125	29	14,785	-58.9		17	14,966	-64.0		29	14,757	-59.0		25	14,344	-52.0	
100	28	16,174	-61.8		14	16,342	-67.8		27	16,149	-60.3		23	15,789	-53.3	
80	24	17,543	-62.8		12	17,681	-69.3		26	17,532	-61.9		18	17,239	-54.6	
60	16	19,310	-62.3		8	19,384	-69.7		21	19,311	-62.2		11	19,034	-57.4	
50	11	20,439	-59.2		6	20,460	-68.4		16	20,448	-61.2		8	20,178	-58.8	
40	8	21,843	-57.1						14	21,839	-60.2		5	21,573	-59.4	
30	5	23,665	-53.8						10	23,646	-56.9					

Standard pressure surface (mb)	FT. HUACHUCA, ARIZ. (856 MB.)				GLASGOW, MONT. (938 MB.)				GRAND JUNCTION, COLO. (851 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	25	1,428	13.7	29	31	648	- 6.1	70	31	1,474	3.9	50
1000	25	94			31	136			31	133		
950	25	544			31	547			31	566		
900	25	1,008			31	967	- 6.2	62	31	1,013		
850	25	1,488	13.5	29	31	1,413	- 7.7	57	31	1,479		
800	25	1,994	9.6	32	31	1,883	- 9.8	55	31	1,972	2.8	36
750	25	2,531	5.9	31	31	2,381	-13.0	57	31	2,495	- 1.1	40
700	25	3,085	1.8	33	31	2,900	-16.2	57	31	3,037	- 5.4	45
650	25	3,681	- 2.0		31	3,462	-19.6	57	31	3,619	- 9.2	49
600	25	4,308	- 6.1		31	4,043	-23.3	56	31	4,228	-13.2	51
550	25	4,982	-10.5		31	4,677	-27.5	55	31	4,890	-17.6	46
500	25	5,710	-15.6		31	5,354	-32.0	49	31	5,591	-22.6	39
450	25	6,501	-21.4		31	6,100	-36.6		30	6,364	-27.8	37
400	23	7,354	-27.6		31	6,897	-41.8		29	7,192	-34.0	
350	23	8,300	-35.0		31	7,790	-47.4		29	8,113	-40.8	
300	22	9,352	-43.2		30	8,806	-51.6		29	9,145	-47.8	
250	14	10,538	-50.7		29	9,987	-53.0		29	10,328	-54.3	
200	10	11,987	-55.6		29	11,427	-52.3		28	11,745	-55.9	
175	9	12,847	-57.0		29	12,291	-51.9		27	12,598	-55.4	
150	6	13,810	-58.9		28	13,292	-52.3		27	13,578	-56.5	
125					27	14,476	-53.4		25	14,730	-57.5	
100					26	15,907	-55.6		25	16,127	-60.8	
80					25	17,321	-57.3		23	17,509	-62.6	
60					23	19,141	-57.9		10	19,260	-61.5	
50					23	20,288	-58.7		6	20,400	-58.4	
40					17	21,714	-59.1					
30					7	23,553	-57.8					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

MARCH 1955

Standard pressure surface (mb.)	GREAT FALLS, MONT. (884 MB.)				GREEN BAY, WIS. (987 MB.)				GREENSBORO, N.C. (985 MB.)				HATTERAS, N. C. (1017 MB.)				HILO, T. H. (1013 MB.)				INTERNAT. FALLS, MINN. (970 MB.)				KOTZEBUE, ALASKA (1016 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,123	- 5.6	67	31	210	- 3.1	72	31	273	8.9	68	31	3	13.5	77	31	9	22.3	76	31	360	-10.5	60	31	5	-16.0	78
1,000--	31	141			31	108			31	148			31	141	13.9	71	31	125	20.8	75	31	121			31	121	-15.1	70
950----	31	558			31	522	- 3.3	63	31	575	9.9	54	31	579	12.4	60	31	566	17.3	79	31	518	- 9.5	59	31	518	-12.9	66
900----	31	988			31	942	- 5.1	61	31	1,022	7.8	55	31	1,025	9.4	59	31	1,027	13.8	84	31	935	-11.4	62	31	922	-13.2	65
850----	31	1,431	- 5.1	50	31	1,389	- 6.7	58	31	1,491	5.1	54	31	1,497	6.7	55	31	1,508	10.8	87	31	1,372	-12.2	62	31	1,357	-13.9	64
800----	31	1,905	- 8.2	53	31	1,861	- 8.0	48	31	1,984	2.6	51	31	1,992	4.3	49	31	2,012	8.3	83	31	1,835	-12.9	57	31	1,816	-15.3	63
750----	31	2,407	-11.2	57	31	2,370	- 9.5	47	31	2,510	.4	45	31	2,524	1.5	50	31	2,553	5.9	67	31	2,333	-14.4	54	31	2,307	-17.2	59
700----	31	2,930	-14.4	57	31	2,891	-12.2	48	31	3,055	- 2.1	42	31	3,068	- 1.6	50	31	3,107	3.2	62	31	2,846	-17.1	53	31	2,816	-19.5	58
650----	31	3,496	-18.0	55	31	3,462	-15.3	47	31	3,643	- 5.1	37	31	3,662	- 4.7	47	31	3,706	.1	48	31	3,406	-20.1	54	31	3,371	-21.8	52
600----	31	4,082	-22.1	55	30	4,050	-19.0	47	31	4,266	- 8.7	37	31	4,280	- 8.1	48	31	4,342	- 3.4		31	3,987	-23.5	53	31	3,949	-25.0	50
550----	31	4,720	-26.6	56	30	4,694	-23.1	46	31	4,938	-12.5	33	31	4,955	-12.4	45	31	5,027	- 7.3		31	4,621	-27.7	56	30	4,584	-28.3	50
500----	31	5,399	-30.8	54	30	5,383	-27.8	45	31	5,657	-17.4		31	5,672	-17.1	42	31	5,762	-12.2		31	5,296	-32.4	57	30	5,258	-31.9	50
450----	31	6,146	-35.8		30	6,139	-33.2	43	31	6,446	-22.7		31	6,464	-22.1	44	31	6,569	-17.9		31	6,039	-37.7	54	30	6,001	-36.4	49
400----	31	6,949	-41.4		30	6,950	-38.4	40	31	7,292	-28.6	34	31	7,311	-28.0	44	31	7,431	-24.1		31	6,833	-43.2		30	6,803	-41.8	
350----	30	7,834	-47.2		30	7,856	-44.1		31	8,235	-35.5		31	8,256	-35.0	41	30	8,392	-30.8		31	7,722	-47.9		30	7,696	-47.7	
300----	30	8,844	-51.3		30	8,876	-49.7		29	9,295	-43.1		30	9,312	-42.8		30	9,469	-38.5		31	8,729	-51.7		30	8,700	-52.8	
250----	30	10,020	-53.6		30	10,056	-53.2		29	10,501	-52.1		30	10,517	-51.3		30	10,698	-47.1		31	9,904	-53.4		30	9,870	-53.6	
200----	30	11,452	-53.2		30	11,490	-52.5		26	11,910	-56.6		30	11,945	-56.1		30	12,143	-56.8		30	11,344	-51.7		29	11,308	-50.5	
175----	30	12,313	-52.9		30	12,352	-52.0		25	12,766	-56.2		30	12,793	-56.4		30	12,979	-61.5		28	12,200	-51.2		29	12,179	-49.9	
150----	30	13,305	-53.5		30	13,348	-52.8		25	13,741	-58.2		29	13,769	-58.1		30	13,922	-66.3		27	13,200	-51.9		29	13,187	-49.8	
125----	29	14,470	-54.4		30	14,518	-54.6		24	14,877	-60.7		29	14,909	-61.1		29	15,018	-69.6		24	14,398	-52.9		29	14,376	-50.8	
100----	28	15,887	-56.5		29	15,932	-56.8		22	16,253	-63.7		28	16,281	-64.4		24	16,340	-72.4		21	15,828	-54.7		27	15,826	-52.0	
80-----	27	17,302	-57.3		27	17,331	-58.0		20	17,615	-65.7		25	17,630	-65.9		18	17,656	-71.6		21	17,252	-56.0		24	17,267	-53.2	
60-----	22	19,099	-59.0		23	19,139	-59.5		16	19,338	-66.8		20	19,372	-65.8		16	19,368	-67.2		17	19,089	-58.4		21	19,118	-54.3	
50-----	13	20,301	-59.0		18	20,283	-58.9		13	20,439	-64.6		16	20,480	-64.3		16	20,471	-65.3		10	20,234	-58.3		19	20,295	-54.4	
40-----					10	21,692	-58.4		11	21,831	-61.4		11	21,868	-60.3		10	21,833	-64.5						13	21,726	-54.8	
30-----									7	23,629	-56.3		7	23,719	-54.0										7	23,530	-56.2	

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1017 MB.)				LANDER, WYO. (825 MB.)				LAS VEGAS, NEV. (937 MB.)				LITTLE ROCK, ARK. (1006 MB.)				MCGRATH, ALASKA (1001 MB.)				MAZATLAN, MEXICO (1011 MB.)				MEDFORD, ORE. (973 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	5	16.4	80	31	1,696	- 2.7	55	31	660	14.2	19	31	79	12.2	65	31	103	- 5.3	62	31	14	20.8	76	31	401	7.8	65
1,000--	31	151	16.5	75	31	133			31	107			31	132			31	104			31	107	20.1	72	31	173		
950----	31	589	14.2	71	31	553			31	546			31	565	11.1	59	31	505	- 7.9	62	31	565	22.4	37	31	599	8.0	53
900----	31	1,042	11.4	61	31	992			31	1,003	14.8	20	31	1,012	8.8	62	31	924	- 9.0	64	31	1,020	21.0	30	31	1,041	4.9	54
850----	31	1,521	11.2	50	31	1,452			31	1,483	10.8	24	31	1,483	6.4	63	31	1,364	-10.5	63	31	1,513	18.5	30	31	1,504	1.3	58
800----	31	2,026	9.8	41	31	1,936	- 2.2	43	31	1,984	6.6	28	31	1,979	4.7	54	31	1,829	-12.2	60	31	2,029	15.6		31	1,989	- 1.9	61
750----	31	2,568	8.2	28	31	2,449	- 5.5	40	31	2,515	2.2	32	31	2,509	2.1	46	31	2,324	-14.4	56	31	2,583	12.1		31	2,502	- 4.4	59
700----	31	3,127	5.5	27	31	2,982	- 9.0	40	31	3,062	- 1.8	32	31	3,059	- .6	41	31	2,840	-17.2	56	30	3,145	8.0		31	3,040	- 7.2	52
650----	31	3,734	2.0	29	31	3,557	-12.6	41	31	3,652	- 5.9	29	29	3,653	- 3.7	34	31	3,401	-20.2	55	30	3,757	3.5	36	31	3,619	-10.5	46
600----	31	4,369	- 2.5	30	31	4,159	-16.0	40	31	4,269	-10.1		29	4,278	- 7.3	33	31	3,981	-23.3	52	30	4,396	- 1.0		31	4,226	-13.9	41
550----	31	5,056	- 7.3	30	31	4,811	-20.3	36	31	4,938	-14.4	27	29	4,950	-11.9	36	31	4,618	-27.3	50	30	5,084	- 5.3		30	4,888	-18.2	41
500----	31	5,789	-12.4		31	5,508	-25.5	36	31	5,650	-19.6		29	5,673	-17.0		30	5,289	-31.5	46	30	5,827	-10.1		30	5,589	-22.4	42
450----	31	6,594	-18.1		31	6,266	-30.8		31	6,435	-25.0		29	6,461	-22.7		30	6,037	-36.3	44	30	6,635	-15.8		30	6,365	-27.7	40
400----	31	7,455	-24.4		30	7,092	-36.6		31	7,270	-31.1		28	7,306	-28.6		30	6,835	-41.5		29	7,510	-22.6		30	7,191	-33.7	41
350----	30	8,413	-31.5		30	8,003	-43.2		31	8,202	-38.2		28	8,248	-35.4		28	7,737	-47.3		29	8,475	-29.9		30	8,113	-40.7	
300----	29	9,482	-39.9		30	9,024	-50.2		31	9,244	-46.0		28	9,303	-43.1		28	8,742	-52.6		27	9,554	-38.5		30	9,145	-48.1	
250----	29	10,700	-49.5		30	10,195	-56.2		29	10,441	-53.7		28	10,509	-51.2		26	9,908	-54.1		22	10,787	-48.5		30	10,325	-55.5	
200----	28	12,137	-55.2		27	11,593	-56.8		28	11,864	-58.9		26	11,938	-56.5		24	11,334	-51.3		14	22,222	-57.4		30	11,729	-59.8	
175----	28	12,985	-57.1		27	12,440	-56.0		27	12,700	-58.9		25	12,782	-55.9		24	12,201	-50.8		11	13,058	-60.0		29	12,564	-59.9	
150----	27	13,953	-61.1		27	13,421	-55.4		25	13,667	-58.5		25	13,758	-57.9		23	13,199	-50.9		6	14,034	-64.7		25	13,532	-58.2	
125----	26	15,070	-65.2		26	14,580	-56.5		24	14,808	-60.1		25	14,898	-61.0		23	14,383	-51.5						25	14,677	-59.3	
100----	24	16,416	-68.9		25	15,996	-57.9		19	16,183	-62.5		23	16,274	-64.4		23	15,826	-52.7						24	16,062	-60.4	
80-----	20	17,744	-70.8		24	17,396	-60.8		16	17,546	-64.8		20	17,624	-66.8		23	17,261	-53.5						23	17,447	-61.6	
60-----	10	19,449	-69.5		23	19,181	-62.0		10	19,294	-64.6		15	19,346	-66.4		21	19,101	-54.5						29	19,229	-62.6	
50-----	8	20,538	-67.4		21	20,309	-61.7		6	20,411	-64.0		11	20,462	-63.9		19	20,269	-55.1						16	20,355	-61.7	
40-----	6	21,904	-60.2		12	21,686	-60.5						8	21,850	-59.1		17	21,692	-56.3						9	21,730	-60.9	
30-----	6	23,731	-52.9										5	23,699	-52.3		9	23,551	-57.3						7	23,549	-59.9	

Standard pressure surface (mb.)	MIAMI, FLA. (1019 MB.)				MIDLAND, TEX. (915 MB.)				NANTUCKET, MASS. (1011 MB.)				NASHVILLE, TENN. (996 MB.)				NOME, ALASKA (1013 MB.)				NORTH PLATTE, NEBR. (915 MB.)				NORTHWAY, ALASKA (950 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	[illegible]	11.2	78	31	871	14.3	30	31	14	2.3	81	31	177	10.5	71	31	7	-11.6	80	31	848	0.5	66	31	524	- 8.1	61
1,000--	31	167	20.6	74	31	103			31	102			31	140			31	102			31	122			31	120		
950----	31	606	18.3	71	31	546			31	521	2.3	64	31	567	9.4	59	31	500	-12.1	68	31	543			31	522		
900----	31	1,071	15.8	68	31	1,006	15.4	28	31	952	.5	61	31	1,015	7.4	58	31	908	-11.7	65	31	979	2.1	54	31	939	- 9.2	51
850----	31	1,555	13.9	50	31	1,488	13.6	27	31	1,410	- 1.2	58	31	1,483	5.1	58	31	1,344	-12.3	60	31	1,439	.6	46	31	1,379	-10.9	52
800----	31	2,064	12.1	38	31	1,996	10.6	27	31	1,891	- 3.1	54	31	1,977	3.3	51	31	1,806	-14.0	58	31	1,923	- 1.5	46	31	1,843	-13.1	55
750----	31	2,605	9.6		31	2,535	7.2	26	31	2,405	- 5.2	51	31	2,506	.9	48	31	2,301	-15.8	62	31	2,439	- 4.2	46	31	2,337	-15.7	55
700----	31	3,172	6.4		31	3,093	3.5	29	31	2,940	- 7.5	46	31	3,050	- 2.1	46	31	2,811	-18.1	60	31	2,976	- 6.9	43	31	2,850	-18.2	52
650----	31	3,778	3.2		31	3,693	- .3	31	31	3,519	-11.1	43	30	3,644	- 5.8	41	31	3,370	-20.8	59	31	3,557	-10.6	45	31	3,411	-21.4	51
600----	31	4,420	- .6		31	4,325	- 4.7	31	31	4,124	-14.6		30	4,258	- 9.5	37	31	3,950	-23.7	56	31	4,161	-14.2	43	31	3,985	-24.8	50
550----	30	5,110	- 4.9		31	5,005	- 9.6	30	31	4,781	-18.3		30	4,932	-13.3		31	4,585	-27.5	54	31	4,819	-18.7	40	31	4,619	-28.6	52
500----	30	5,854	-10.3		31	5,732	-14.9		31	5,483	-22.9		30	5,643	-18.2	35	31	5,260	-31.8	50	31	5,519	-23.6	38	31	5,290	-32.8	52
450----	29	6,665	-15.9		31	6,529	-20.8		31	6,255	-28.2		30	6,427	-23.6		31	6,003	-36.6	50	31	6,287	-29.2	33	31	6,035	-37.6	
400----	29	7,534	-22.5		30	7,379	-26.9		31	7,083	-33.9		30	7,272	-29.6		31	6,804	-42.0		30	7,113	-35.3		31	6,827	-42.9	
350----	29	8,499	-30.1		30	8,327	-34.2		31	8,006	-39.9		30	8,210	-36.4		31	7,696	-47.4		30	8,029	-41.9		30	7,717	-48.5	
300----	29	9,577	-38.7		30	9,388	-42.0		31	9,043	-46.7		30	9,262	-43.8		31	8,703	-51.9		30	9,056	-48.8		29	8,717	-52.9	
250----	29	10,804	-46.8		30	10,596	-51.0		31	10,232	-53.4		29	10,460	-51.5		31	9,880	-52.4		30	10,236	-53.8		29	9,887	-53.9	
200----	28	12,262	-53.4		29	12,020	-56.0		31	11,658	-54.6		29	11,888	-55.9		31	11,329	-50.5		30	11,660	-55.1		29	11,326	-51.6	
175----	28	13,115	-56.9		29	12,867	-56.5		31	12,516	-53.4		29	12,739	-54.9		30	12,201	-49.7		30	12,513	-54.5		29	12,193	-50.9	
150----	28	14,079	-62.2		29	13,841	-58.7		31	13,505	-54.4		28	13,713	-57.7		30	13,209	-49.5		30	13,498	-55.2		28	13,202	-51.1	
125----	27	15,189	-68.6		27	14,971	-62.9		31	14,668	-56.0		26	14,858	-60.3		30	14,401	-50.5		29	14,659	-57.0		26	14,382	-51.9	
100----	25	16,508	-73.7		25	16,325	-66.5		30	16,078	-58.4		24	16,242	-63.5		29	15,852	-51.9		29	16,063	-59.0		22	15,823	-53.8	
80-----	23	17,804	-75.2		18	17,661	-66.9		27	17,464	-58.7		20	17,604	-64.7		29	17,292	-53.5		28	17,456	-61.4		17	17,249	-55.8	
60-----	20	19,461	-74.9		13	19,379	-67.6		25	19,259	-60.0		15	19,356	-63.5		28	19,133	-54.9		24	19,242	-62.0		14	19,086	-57.1	
50-----	16	20,517	-71.1		10	20,477	-64.6		23	20,400	-59.0		13	20,472	-62.4		25	20,293	-55.3		20	20,377	-61.4		13	20,234	-57.6	
40-----	16	21,854	-65.2		10	21,853	-60.3		18	21,799	-58.0		12	21,864	-59.1		22	21,715	-56.0		17	21,777	-59.8		10	21,700	-57.6	
30-----	14	23,629	-58.6		6	23,662	-53.8		11	23,669	-55.5		7	23,684	-53.0		15	23,544	-57.0		11	23,591	-56.5		6	23,542	-58.5	
20-----	9	26,214	-50.6																									

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Standard pressure surface (mb.)	OAKLAND, CALIF. (1019 MB.)				OKLAHOMA CITY, OKLA. (969 MB.)				OMAHA, NEBR. (967 MB.)				PHOENIX, ARIZ. (974 MB.)				PITTSBURGH, PA. (972 MB.)				PORTLAND, ME. (1009 MB.)				RAPID CITY, S. DAK. (902 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	6	12.2	66	31	391	9.6	59	31	403	1.0	66	31	341	19.2	26	31	353	4.5	62	31	20	- 1.4	78	28	966	- 3.7	65
1,000	31	162	11.9	53	31	124			31	127			31	112			31	120			31	91			28	140		
950	31	590	9.9	55	31	556	10.6	51	31	545	1.8	59	31	560	19.6	17	31	538	3.9	61	31	504	- 2.0	65	28	555		
900	31	1,038	7.9	46	31	1,002	9.2	47	31	978	1.0	54	31	1,018	16.0	18	31	978	1.4	63	31	928	- 4.1	64	28	984		
850	31	1,507	5.9	35	31	1,474	7.8	44	31	1,435	- .9	44	31	1,499	12.1	20	31	1,435	- 1.4	61	31	1,377	- 5.9	64	28	1,436	- 4.3	53
800	31	2,001	3.0	33	31	1,972	6.0	36	31	1,918	- 2.8	43	31	2,002	8.0	22	31	1,916	- 3.8	57	31	1,851	- 6.9	61	28	1,911	- 7.1	53
750	31	2,525	- .1	35	31	2,499	3.1	34	31	2,437	- 5.2	41	31	2,535	4.0	23	31	2,429	- 5.8	51	31	2,361	- 8.8	54	28	2,415	- 9.5	52
700	31	3,070	- 3.4	34	31	3,052	- .3	32	31	2,966	- 8.1	39	31	3,087	.2	24	31	2,962	- 8.5	50	31	2,885	-11.2	51	28	2,942	-12.1	51
650	31	3,655	- 6.3	31	31	3,649	- 3.8	31	31	3,544	-11.7	43	31	3,684	- 3.6		31	3,538	-11.4	48	31	3,458	-14.4	48	28	3,509	-15.4	50
600	31	4,274	-10.4	32	31	4,268	- 7.4	31	31	4,146	-15.5	44	31	4,304	- 8.0		31	4,143	-15.3	47	31	4,053	-18.2	47	28	4,106	-18.9	48
550	31	4,938	-15.1		31	4,945	-12.3	35	31	4,803	-19.8	43	31	4,980	-12.4		31	4,798	-19.6	45	31	4,704	-22.2	43	28	4,746	-22.7	45
500	31	5,651	-20.2		31	5,661	-17.5		31	5,498	-24.6	42	31	5,696	-17.2		31	5,497	-24.0	43	31	5,393	-26.8	40	28	5,441	-27.4	43
450	31	6,429	-25.9		31	6,450	-23.2		31	6,269	-29.9	41	31	6,482	-22.6		31	6,267	-28.7		31	6,153	-32.0	38	28	6,191	-32.9	39
400	31	7,264	-32.4		31	7,292	-29.1		31	7,086	-35.5		31	7,331	-29.0		31	7,093	-34.3	42	31	6,968	-36.9		28	7,009	-38.8	
350	31	8,191	-39.6		31	8,233	-35.9		30	8,004	-42.1		31	8,272	-36.0		31	8,014	-40.5		31	7,881	-42.2		28	7,914	-44.6	
300	31	9,227	-47.7		31	9,287	-43.3		30	9,031	-48.4		31	9,325	-43.7		31	9,048	-47.3		31	8,908	-47.9		28	8,932	-50.7	
250	31	10,409	-55.7		31	10,491	-51.1		29	10,209	-54.3		30	10,526	-52.0		30	10,234	-53.7		31	10,096	-52.5		28	10,107	-54.2	
200	31	11,813	-59.6		31	11,917	-57.0		29	11,628	-55.5		29	11,948	-57.1		30	11,657	-55.8		29	11,527	-52.9		28	11,534	-53.8	
175	31	12,649	-59.3		30	12,770	-56.3		29	12,482	-54.2		28	12,800	-58.0		28	12,509	-55.1		28	12,389	-51.6		28	12,394	-52.7	
150	30	13,619	-59.6		30	13,746	-57.4		29	13,468	-55.1		28	13,770	-59.0		25	13,486	-56.2		28	13,386	-52.8		28	13,387	-53.6	
125	25	14,750	-60.8		30	14,890	-60.3		29	14,626	-57.4		28	14,907	-61.2		18	14,617	-58.3		27	14,559	-54.2		28	14,556	-54.9	
100	25	16,129	-63.2		26	16,271	-63.5		29	16,028	-59.8		28	16,283	-64.2		11	15,999	-59.3		27	15,985	-55.7		27	15,971	-56.8	
80	22	17,501	-63.9		21	17,611	-65.6		28	17,412	-61.7		26	17,638	-65.5		10	17,382	-59.7		27	17,398	-57.7		26	17,380	-57.9	
60	20	19,256	-64.7		12	19,359	-64.7		25	19,189	-62.1		20	19,379	-65.8		6	19,162	-59.4		24	19,192	-58.8		21	19,202	-59.1	
50	17	20,377	-63.6		11	20,475	-63.5		21	20,318	-61.4		19	20,485	-65.1		5	20,292	-57.6		22	20,340	-58.1		16	20,348	-58.4	
40	14	21,753	-61.8						16	21,720	-59.7		10	21,854	-61.5		5	21,698	-56.3		17	21,737	-57.2		6	21,773	-57.1	
30	7	23,526	-60.0						10	23,536	-56.5										9	23,534	-54.9					

Standard pressure surface (mb.)	ST. CLOUD, MINN. (976 MB.)				ST PAUL, ALASKA (1010 MB.)				SAN ANTONIO, TEX. (987 MB.)				SAN JUAN, P. R. (1016 MB.)				SANTA MARIA, CALIF. (1009 MB.)				S. STE.MARIE, MICH. (986 MB.)				SPOKANE, WASH. (932 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	316	- 6.0	73	31	10	- 3.1	86	31	243	17.2	58	31	19	23.4	73	31	74	11.0	70	31	221	- 6.4	79	30	722	- 0.3	66
1,000	31	125			31	85			31	130			31	162	22.3	73	31	151	11.7	65	31	108			30	149		
950	31	533	- 5.7	68	31	492	- 5.9	79	31	573	16.0	59	31	606	19.1	75	31	585	11.6	53	31	513	- 6.4	67	30	566		
900	31	951	- 6.6	62	31	910	- 7.7	76	31	1,027	14.0	59	31	1,070	15.7	74	31	1,031	10.1	42	31	933	- 7.9	69	30	996	- 1.0	55
850	31	1,397	- 7.4	57	31	1,353	- 9.3	72	31	1,508	12.5	55	31	1,553	12.5	71	31	1,504	7.6	34	31	1,375	- 9.1	66	30	1,450	- 4.0	54
800	31	1,868	- 9.0	51	31	1,820	-11.2	67	31	2,016	11.4	39	31	2,060	10.4	53	31	2,000	5.2	28	31	1,843	-10.6	62	30	1,925	- 7.4	53
750	31	2,372	-11.3	48	31	2,320	-13.3	64	31	2,559	8.8	32	31	2,604	9.5		31	2,530	2.4		31	2,343	-12.5	59	30	2,435	-10.6	57
700	31	2,892	-14.2	50	31	2,836	-15.9	62	31	3,120	5.8	29	31	3,167	7.9		31	3,078	- 1.1		31	2,862	-14.9	56	30	2,952	-14.0	59
650	31	3,460	-17.3	51	31	3,403	-18.8	59	31	3,726	2.0	28	31	3,783	4.4		31	3,668	- 4.8		31	3,430	-17.7	57	30	3,523	-17.4	58
600	31	4,046	-21.1	51	31	3,983	-21.9	55	31	4,363	- 2.4	28	31	4,421	.4		31	4,290	- 8.8		31	4,014	-20.9	57	30	4,106	-21.2	55
550	31	4,688	-24.7	46	31	4,626	-25.6	51	31	5,048	- 7.3		31	5,114	- 4.0		31	4,960	-13.3		31	4,655	-24.9	55	30	4,750	-25.3	51
500	31	5,371	-29.1	44	31	5,304	-29.8	50	31	5,783	-12.5		31	5,857	- 9.0		31	5,677	-18.5		31	5,338	-29.4	52	30	5,428	-29.9	46
450	31	6,123	-34.3	42	31	6,056	-34.7	47	31	6,586	-18.4		31	6,680	-14.3		31	6,463	-24.1		31	6,086	-34.7	51	30	6,181	-34.7	
400	31	6,931	-39.5		30	6,870	-39.6		31	7,447	-25.0	34	31	7,547	-21.1		31	7,302	-30.6		31	6,895	-40.5		30	6,984	-39.7	
350	31	7,833	-44.8		30	7,771	-45.6		31	8,403	-32.1	34	31	8,519	-28.2		31	8,236	-37.8		30	7,809	-45.8		30	7,886	-45.2	
300	31	8,851	-50.0		30	8,786	-50.1		31	9,472	-40.4		31	9,608	-35.7		31	9,281	-45.5		28	8,826	-50.5		30	8,902	-50.2	
250	31	10,031	-53.1		30	9,969	-52.1		31	10,688	-50.0		31	10,853	-43.7		31	10,474	-53.2		26	10,011	-53.6		30	10,080	-53.9	
200	31	11,468	-51.9		29	11,412	-50.6		31	12,120	-56.2		31	12,326	-52.1		31	11,891	-57.9		20	11,451	-51.8		28	11,508	-54.1	
175	31	12,334	-51.6		28	12,289	-50.3		29	12,969	-57.1		31	13,180	-57.6		31	12,731	-58.3		17	12,314	-50.6		26	12,365	-53.7	
150	30	13,332	-52.5		28	13,294	-50.5		29	13,935	-60.7		31	14,138	-64.0		31	13,699	-58.6		16	13,318	-51.1		25	13,363	-53.8	
125	30	14,505	-54.1		28	14,480	-51.2		29	15,055	-65.7		31	15,236	-70.6		31	14,841	-60.0		12	14,508	-52.6		17	14,580	-55.6	
100	~~29~~	15,930	-55.5		28	15,925	-52.6		28	16,398	-69.6		30	16,537	-77.2		29	16,230	-62.9		9	15,961	-53.9		9	15,986	-59.7	
80	28	17,345	-57.1		27	17,363	-52.9		22	17,715	-71.8		27	17,811	-78.8		26	17,601	-63.8		8	17,385	-55.0		9	17,379	-59.0	
60	22	19,161	-57.9		25	19,219	-54.1		13	19,395	-72.0		27	19,466	-73.7		24	19,357	-64.8		6	19,210	-58.3		8	19,171	-59.8	
50	18	20,324	-58.0		23	20,393	-54.0		11	20,472	-70.1		25	20,546	-67.3		22	20,467	-64.6		6	20,355	-58.3		6	20,326	-58.3	
40	15	21,751	-57.8		17	21,810	-54.3		7	21,815	-65.1		22	21,915	-62.1		14	21,831	-62.3		6	21,762	-57.4		5	21,722	-57.8	
30	9	23,579	-55.9		5	23,694	-51.7		6	23,593	-57.8		19	23,715	-55.8													
20													7	26,362	-50.1													

Standard pressure surface (mb.)	SWAN ISLAND, W. I. (1015 MB.)				TACUBAYA, MEXICO (772 MB.)				TAMPA, FLA. (1019 MB.)				TATOOSH ISLAND, WASH. (1015 MB.)				VERACRUZ, MEXICO (1011 MB.)				WASHINGTON, D. C. (1006 MB.)				YAKUTAT, ALASKA (1011 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	10	24.9	77	27	2,306	19.3	31	31	7	17.3	84	31	31	4.4	78	29	13	23.9	83	31	88	6.6	59	31	12	0.1	78
1,000	31	137	24.1	78	27	12			31	172	18.6	76	31	150	3.7	75	29	107	23.0	82	31	133	7.2	58	31	101		
950	31	585	20.6	81	27	483			31	614	17.3	63	31	568	1.2	75	29	554	22.8	59	31	559	5.9	53	31	511	- 2.4	70
900	31	1,051	17.8	72	27	966			31	1,072	15.2	59	31	998	- 1.5	78	29	1,024	20.4	56	31	995	3.7	55	31	937	- 5.0	71
850	31	1,538	14.9	66	27	1,462			31	1,554	13.0	48	31	1,452	- 3.8	73	29	1,515	17.2	61	31	1,457	1.2	54	31	1,384	- 7.6	71
800	31	2,049	12.3	56	27	1,997			31	2,062	11.3	36	31	1,928	- 6.0	62	29	2,031	14.5	54	31	1,943	- 1.0	51	31	1,853	-10.3	69
750	31	2,594	10.0	39	27	2,555	18.0	28	31	2,607	9.0	29	31	2,436	- 8.4	55	29	2,583	12.6	31	31	2,463	- 3.5	47	31	2,355	-13.0	65
700	31	3,159	7.7	25	27	3,136	13.1	28	31	3,166	5.9		31	2,964	-11.1	51	29	3,151	9.7		31	2,997	- 6.7	48	31	2,870	-15.9	59
650	31	3,773	5.1		27	3,757	7.8	34	31	3,778	2.5		31	3,535	-14.2	53	29	3,768	6.3		31	3,580	- 9.4	44	31	3,433	-19.1	53
600	31	4,416	2.1		27	4,407	2.3	38	31	4,412	- 1.2		31	4,133	-18.1	51	29	4,415	2.1		31	4,188	-13.2	40	31	4,017	-22.5	50
550	31	5,115	- 2.1		26	5,104	- 3.2	39	31	5,101	- 5.6		31	4,780	-22.2	49	28	5,111	- 2.8		31	4,849	-16.9	39	31	4,655	-26.6	49
500	31	5,864	- 6.8		23	5,848	- 8.1		31	5,840	-11.0		31	5,472	-26.8	50	28	5,861	- 7.3		31	5,557	-21.1	37	31	5,332	-31.2	49
450	31	6,690	-12.5		22	6,664	-13.6		31	6,652	-16.8		31	6,231	-32.2	47	28	6,684	-13.3		31	6,334	-26.2	39	31	6,080	-36.0	
400	31	7,567	-19.1		22	7,542	-20.0		31	7,515	-23.0		31	7,046	-37.6	52	28	7,560	-20.2		31	7,168	-32.0	41	31	6,880	-41.3	
350	30	8,545	-26.2		19	8,517	-27.7		30	8,481	-30.4		31	7,955	-43.1		26	8,535	-28.0		31	8,097	-38.8		31	7,774	-47.1	
300	30	9,642	-33.6		16	9,609	-36.2		30	9,557	-39.0		31	8,979	-49.3		26	9,621	-36.5		31	9,139	-45.7		31	8,782	-52.2	
250	29	10,896	-42.3		12	10,854	-44.4		30	10,781	-48.4		31	10,156	-55.1		24	10,860	-45.1		31	10,331	-53.4		30	9,953	-53.4	
200	29	12,371	-52.3		9	12,320	-52.4		30	12,228	-54.5		29	11,573	-56.4		21	12,321	-53.8		29	11,750	-56.3		28	11,378	-51.1	
175	28	13,222	-58.2		7	13,172	-56.7		29	13,076	-57.8		29	12,422	-55.2		21	13,168	-59.0		29	12,600	-55.4		25	12,240	-50.4	
150	27	14,177	-65.0		5	14,129	-62.9		29	14,038	-62.1		29	13,407	-54.6		19	14,122	-65.3		29	13,579	-56.9		22	13,256	-51.2	
125	24	15,270	-71.7		5	15,236	-68.8		29	15,149	-67.6		28	14,574	-56.2		17	15,211	-71.5		29	14,728	-59.1		17	14,435	-51.7	
100	21	16,560	-78.1		5	16,553	-73.9		28	16,473	-72.2		24	15,986	-57.8		15	16,513	-76.9		26	16,103	-60.6		10	15,882	-52.6	
80	18	17,828	-79.2						26	17,777	-74.5		22	17,374	-58.3		13	17,801	-78.8		24	17,488	-62.1		7	17,273	-55.5	
60	16	19,473	-74.0						14	19,447	-73.4		14	19,179	-58.1		8	19,458	-74.6		22	19,254	-62.9					
50	14	20,548	-69.7						11	20,511	-70.4		13	20,323	-59.2		8	20,528	-69.5		22	20,378	-62.2					
40	12	21,902	-63.3						6	21,847	-65.0		7	21,785	-59.2		7	21,875	-62.8		17	21,754	-60.6					
30	10	23,713	-54.8						6	23,634	-57.1										12	23,558	-55.4					
20																					6	26,195	-48.2					
15																					5	28,083	-41.9					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for November 1954

Standard pressure surface (mb.)	DENVER, COLO. (835 MB.)				FT WORTH, TEX. (997 MB.)				OGDEN, UTAH (858 MB.)				RANTOUL, ILL. (991 MB.)				ROME, N. Y. (998 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,661	4.6	43	30	178	13.1	62	30	1,450	6.1	60	30	227	4.5	78	30	146	3.0	76
1,000--	30	159			30	151			30	174			30	152			30	135		
950----	30	591			30	589	14.4	42	30	612			30	576	5.5	70	30	552	2.3	73
900----	30	1,046			30	1,040	11.8	42	30	1,060			30	1,012	3.4	65	30	986	.2	75
850----	30	1,517			30	1,516	9.3	40	30	1,531	8.2	53	30	1,475	1.8	60	30	1,442	- 2.0	74
800----	30	2,017	7.7	38	30	2,016	6.9	38	30	2,029	6.0	47	30	1,961	- .5	57	30	1,923	- 3.7	71
750----	30	2,553	4.4	39	30	2,550	4.4	40	30	2,557	2.7	47	30	2,480	- 3.1	54	30	2,433	- 5.9	64
700----	30	3,104	.8	42	30	3,103	1.5	40	30	3,110	- .4	46	30	3,018	- 5.8	50	30	2,969	- 8.1	54
650----	30	3,697	- 2.8	44	30	3,700	- 1.7	38	30	3,699	- 3.9	48	30	3,601	- 8.8	48	30	3,547	-10.9	50
600----	30	4,325	- 7.1	46	30	4,329	- 5.5	36	30	4,327	- 7.6	49	30	4,212	-12.0	45	30	4,153	-14.2	51
550----	30	5,001	-11.8	46	30	5,009	-10.0	36	30	4,999	-11.6	43	30	4,876	-16.0	42	29	4,811	-18.2	49
500----	30	5,721	-16.5	36	30	5,735	-14.8		30	5,724	-16.1	40	30	5,584	-21.0	42	29	5,516	-23.0	47
450----	30	6,514	-21.8		30	6,534	-20.5		30	6,517	-21.3	34	30	6,358	-26.8		29	6,282	-28.4	
400----	30	7,362	-28.4		30	7,385	-27.3		30	7,368	-27.7		30	7,193	-33.0		29	7,114	-34.1	
350----	30	8,303	-35.8		30	8,330	-34.6		30	8,312	-35.1		30	8,119	-39.3		29	8,035	-40.5	
300----	30	9,355	-43.5		30	9,388	-42.5		30	9,368	-43.2		30	9,161	-44.9		28	9,065	-46.2	
250----	30	10,557	-51.5		30	10,597	-50.1		30	10,572	-51.4		30	10,366	-49.8		27	10,265	-51.3	
200----	29	11,980	-56.6		30	12,030	-57.0		30	11,997	-57.4		30	11,811	-53.6		26	11,712	-54.7	
175----	29	12,821	-58.6		26	12,863	-59.7		30	12,836	-59.2		28	12,660	-54.6		26	12,564	-55.5	
150----	28	13,780	-60.6		25	13,824	-62.0		29	13,794	-60.4		26	13,643	-56.1		26	13,543	-56.4	
125----	27	14,905	-62.8		21	14,950	-64.6		28	14,924	-63.0		24	14,789	-58.8		25	14,693	-58.2	
100----	27	16,273	-64.7		16	16,290	-67.8		27	16,288	-64.2		19	16,174	-61.0		24	16,095	-58.9	
80-----	26	17,633	-63.7		10	17,619	-66.5		22	17,659	-63.6		15	17,576	-60.9		18	17,489	-58.6	
60-----	26	19,403	-61.9		[illegible]	19,366	-64.1		21	19,429	-62.1		9	19,391	-60.5		16	19,283	-58.9	
50-----	22	20,524	-60.9		6	20,481	-62.8		19	20,561	-60.7		8	20,527	-60.4		16	20,425	-59.3	
40-----	19	21,921	-60.1		[illegible]	21,857	-61.2		15	21,972	-60.0		7	21,917	-59.7		11	21,833	-58.7	
30-----	10	23,742	-58.4		5	23,653	-58.8		12	23,773	-58.4									
20-----									5	26,346	-56.2									

* December data for the above Air Force stations will be included in the April 1955 issue of this publication.

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			* Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	255	3.0	31	265	3.5	28	277	3.0	30	299	4.9	31	290	2.2	30	149	5.7
500	--	---	---	--	---	---	--	---	----	--	---	----	--	---	----	29	165	7.8
1,000	30	244	3.5	--	---	---	--	---	----	29	294	6.5	31	293	2.6	28	175	8.0
1,500	28	242	3.9	--	---	----	28	271	7.4	22	284	8.2	31	278	4.3	24	183	6.2
2,000	26	253	6.9	31	263	4.1	22	276	9.4	17	284	10.2	31	280	5.0	23	206	5.8
2,500	25	259	11.2	31	277	5.7	21	278	10.7	16	291	12.2	31	280	8.3	19	202	5.1
3,000	25	255	14.0	30	276	8.0	19	283	12.3	14	290	13.4	30	283	9.5	17	210	4.5
4,000	24	258	17.1	29	274	12.4	16	296	14.6	12	282	14.2	29	286	11.3	17	238	5.4
5,000	17	264	19.9	23	270	16.0	13	306	16.5	11	286	14.6	27	293	13.1	14	244	9.1
6,000	17	261	25.2	21	273	21.2	11	306	18.8				26	292	15.1	13	243	10.1
8,000				14	264	23.5							16	304	15.9			
10,000													12	301	13.3			
12,000																		
14,000																		

Altitude (meters) m.s.l.	* Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)			* Ely, Nev. (1,910 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	268	4.2	27	236	2.1	31	218	4.6	28	251	3.4	31	268	4.9	31	314	2.7
500	27	271	7.8	27	238	3.8	31	242	5.3	28	252	4.9	--	---	----	--	---	----
1,000	27	274	11.5	20	255	7.4	29	261	7.8	25	250	6.9	--	---	----	--	---	----
1,500	28	282	14.1	12	268	10.2	27	270	9.2	23	266	8.6	31	265	5.1	--	---	----
2,000	29	284	16.4				24	276	11.5	21	271	9.9	31	253	5.6	31	309	2.7
2,500	29	288	18.0				21	277	12.6	18	283	13.6	31	255	7.0	30	303	3.4
3,000	28	293	20.8				20	279	15.0	14	286	15.7	28	262	9.9	30	296	4.4
4,000	27	295	24.5				14	272	18.9				26	270	15.8	30	300	8.1
5,000	25	294	27.1				10	276	20.5				25	265	18.2	30	294	12.9
6,000	23	293	28.2										23	263	21.3	27	283	14.6
8,000	18	289	36.0										18	267	26.7	19	311	14.4
10,000	14	281	31.8										11	269	29.1	14	284	14.3
12,000	13	284	32.4													14	271	22.6
14,000																12	261	22.7

Altitude (meters) m.s.l.	* Ft. Huachuca, Ariz. (1,428 m.)			Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	15	235	4.0	31	283	3.5	30	258	2.3	29	269	2.7	31	287	3.9	29	204	1.5
500	--	---	----	--	---	----	30	264	4.0	29	260	4.2	--	---	----	29	229	4.2
1,000	--	---	----	--	---	----	27	277	5.5	26	261	6.2	31	282	4.9	28	240	5.1
1,500	15	237	4.5	31	284	3.4	20	282	8.6	21	270	8.7	27	272	8.8	27	254	8.1
2,000	15	243	6.6	31	278	3.9	16	284	10.1	19	281	11.4	22	275	11.0	26	264	10.2
2,500	15	241	8.1	29	252	4.3	14	289	10.8	19	283	15.3	17	267	11.8	23	269	11.7
3,000	15	250	11.0	28	252	6.7	12	292	13.0	18	281	18.8	14	269	12.9	21	266	12.9
4,000	15	253	15.5	23	271	9.1	10	303	15.7	11	291	19.7	11	260	14.2	20	273	15.9
5,000	14	253	20.6	19	283	13.8	10	300	17.0							16	277	17.6
6,000	12	252	23.9	19	289	15.3	10	303	19.1							12	280	20.2
8,000	12	256	34.5	15	294	18.7												
10,000																		
12,000																		
14,000																		
16,000																		

Altitude (meters) m.s.l.	Little Rock, Ark. (88 m.)			* Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			** Oakland, Calif. (8 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	198	1.0	31	298	1.1	31	134	3.6	31	200	4.7	27	247	2.1	31	277	2.6
500	30	215	2.0	31	297	1.1	30	145	4.2	30	216	5.0	27	237	3.7	31	347	2.3
1,000	22	232	4.3	31	250	2.1	30	173	2.7	26	258	4.2	27	237	5.0	31	353	2.0
1,500	21	257	6.7	30	243	3.0	29	224	1.7	19	280	6.7	18	280	7.0	31	337	2.2
2,000	20	273	9.9	30	259	4.3	27	215	2.8	16	280	7.8	17	276	11.1	31	324	2.8
2,500	20	275	12.9	30	279	5.8	26	224	2.9	12	285	8.9	17	278	14.2	31	330	3.9
3,000	20	271	14.9	30	294	7.8	26	245	3.3	11	277	13.4	17	276	16.3	31	323	4.8
4,000	16	277	18.2	30	303	12.2	23	256	4.9				12	288	19.8	31	308	6.8
5,000	10	278	17.2	26	312	13.9	21	271	7.7							30	303	9.3
6,000				22	309	14.7	19	289	7.0							30	304	11.2
8,000				15	310	14.3	14	287	10.8							31	304	12.0
10,000				13	286	17.1										31	300	14.9
12,000				10	298	20.7										31	283	19.3
14,000																31	273	19.4
16,000																30	269	16.1

Altitude (meters) m.s.l.	Omaha, Nebr. (306 m.)			Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			St. Louis, Mo. (181 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	27	290	1.9	31	273	1.2	31	337	3.6	30	276	2.3	25	236	2.4
500	27	285	2.4	31	271	1.9	--	---	----	30	275	2.2	25	239	3.6
1,000	26	272	3.9	31	274	2.0	31	335	3.8	26	270	3.8	24	234	5.5
1,500	23	257	7.2	31	264	1.6	30	317	5.0	22	266	8.2	23	249	7.9
2,000	19	268	9.9	31	257	2.4	27	293	6.0	20	270	9.9	21	267	11.3
2,500	19	273	13.8	31	259	5.3	26	285	8.3	20	269	11.5	21	273	13.5
3,000	19	274	15.4	30	260	7.0	25	283	11.3	17	278	13.0	19	275	16.1
4,000	16	285	19.0	28	266	10.4	19	278	16.1	14	285	15.1	14	273	18.1
5,000	16	283	23.3	27	266	14.3	15	285	16.8	11	296	19.5	11	273	22.0
6,000	15	272	26.4	26	262	17.6	12	284	19.2	11	293	20.2			
8,000				18	270	20.4	11	274	22.3						
10,000				11	270	22.5									
12,000															
14,000															
16,000															

Altitude (meters) m.s.l.	San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			* Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			# Washington, D. C. (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	158	1.2	31	266	3.1	31	288	2.6	31	224	3.6	31	281	2.9
500	31	171	1.5	31	266	2.2	31	301	3.7	--	---	----	31	274	6.5
1,000	30	188	2.4	30	246	.5	31	283	6.1	31	228	6.0	31	271	8.3
1,500	26	217	4.5	28	278	.4	31	283	8.3	30	243	7.5	31	268	10.9
2,000	20	246	5.8	27	285	1.6	31	286	10.1	25	268	8.4	31	273	14.8
2,500	17	259	6.6	27	282	3.3	31	283	12.1	18	284	8.9	31	278	16.5
3,000	17	257	8.9	27	285	4.9	31	284	14.1	15	307	10.0	31	278	17.8
4,000	16	268	13.6	27	280	8.0	31	278	17.7	13	313	15.6	31	276	23.4
5,000	13	269	16.9	25	280	10.3	31	282	20.2				31	273	27.5
6,000	11	264	19.3	24	267	12.2	30	282	22.0				31	272	31.7
8,000				19	262	16.4	29	279	30.3				31	270	39.2
10,000				12	255	18.7	28	274	34.6				31	272	47.0
12,000							27	273	28.7				28	277	45.2
14,000							22	267	28.2				25	277	38.4
16,000							12	268	18.7				25	276	34.9

* Rawin Data

** Rawin Data (Cont'd.)

18,000 m., 30 obs., 270 dir., 14.5 speed
20,000 m., 27 obs., 269 dir., 10.3 speed
22,000 m., 24 obs., 283 dir., 7.3 speed
24,000 m., 18 obs., 288 dir., 6.5 speed
26,000 m., 16 obs., 263 dir., 9.7 speed

# Rawin Data (Cont'd.)

18,000 m., 24 obs., 272 dir., 25.6 speed
20,000 m., 21 obs., 280 dir., 12.8 speed
22,000 m., 20 obs., 262 dir., 13.2 speed
24,000 m., 16 obs., 260 dir., 10.7 speed
26,000 m., 10 obs., 273 dir., 13.0 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Table 22

Altitude (meters) m.s.l.	Albuquerque, N. Mex. (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)			Fairbanks, Alaska (135 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	323	1.4	31	12	1.3	28	128	1.1	31	49	3.9	31	322	1.6	31	115	4.0	28	269	1.4	31	174	1.3	31	271	2.0	31	[illegible]	2.5	31	299	0.4	31	243	[illegible]
500	--	---	----	28	44	1.4	28	211	1.4	31	79	7.4	--	---	-	30	154	8.1	28	282	4.7	31	192	3.3	31	291	3.8	31	245	8.1	30	238	3.1	30	83	[illegible]
1,000	--	---	----	28	107	2.7	27	266	2.3	31	82	6.5	31	300	6.2	30	165	8.7	28	277	9.2	31	218	4.2	31	308	4.3	31	263	9.4	30	251	6.3	30	184	1.2
1,500	--	---	----	29	136	1.6	27	306	3.1	31	77	5.0	30	296	9.0	30	178	6.7	28	281	12.0	31	236	5.0	28	307	7.2	31	268	11.4	30	256	8.3	30	224	2.7
2,000	31	291	5.1	30	188	1.3	27	300	5.3	30	74	4.3	30	301	10.8	30	197	5.3	28	294	13.2	30	239	7.1	28	295	8.5	29	268	12.9	31	269	10.8	30	226	3.5
2,500	30	282	8.1	30	209	2.6	26	310	7.2	30	78	3.4	29	294	11.7	30	209	5.2	28	282	14.2	30	243	9.6	28	293	9.9	28	265	14.7	31	271	13.2	30	243	4.4
3,000	30	279	9.9	30	221	2.5	25	308	11.3	29	62	2.2	28	288	13.5	31	230	5.1	28	287	15.8	30	240	11.6	26	288	9.8	25	270	15.2	31	266	15.6	31	252	4.9
4,000	29	267	11.8	30	242	6.1	22	318	13.5	28	9	1.3	27	284	16.4	31	247	8.5	28	285	21.4	30	251	12.4	24	275	12.4	25	273	19.6	31	267	19.1	31	261	6.2
5,000	27	270	14.5	30	250	8.0	19	321	14.9	28	288	2.7	25	281	18.2	31	253	12.5	28	284	25.2	29	256	15.8	23	272	13.1	22	271	21.7	31	267	23.3	30	264	7.0
6,000	25	272	19.8	30	259	10.5	14	300	10.9	28	291	3.8	22	276	21.6	29	251	14.9	27	283	29.9	26	262	20.0	20	270	12.7	18	279	21.6	31	265	28.4	29	272	8.3
8,000	12	278	20.9	23	247	10.7				27	278	7.2	15	260	21.7	28	259	19.8	24	284	36.9	22	271	20.8	15	268	11.6				31	266	38.7	26	277	[illegible]
10,000				19	255	12.9				27	270	9.1				22	256	21.4	19	284	37.1	18	274	23.8	14	268	17.1				29	271	46.3	21	265	6.3
12,000				14	247	9.1				26	276	7.4				13	270	20.7	14	285	42.5	11	282	26.3							25	267	43.7	19	255	5.9
14,000				12	260	6.7				25	271	6.6				10	254	21.5	11	279	32.9										21	269	35.8	16	269	5.3
16,000				10	232	4.3				18	264	4.3																			17	268	29.5	16	281	5.2
18,000										13	233	4.0																			12	272	20.0	11	293	3.5

Altitude (meters) m.s.l.	Ft. Huachuca, Ariz. (1,428 m.)			Grand Junction Colo. (1,473 m.)			Greensboro, N.C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	29	237	3.0	31	352	1.7	31	278	1.0	31	225	3.4	31	288	1.9	31	180	1.1	31	324	1.0	31	100	1.2	31	167	1.2	29	278	3.2	31	210	1.2	30	50	1.9
500	--	---	----	--	---	----	30	256	3.6	30	253	7.8	31	284	2.4	31	234	5.4	30	321	1.5	31	117	3.2		---	----	29	286	9.0	31	231	4.5	29	113	1.8
1,000	--	---	----	--	---	----	30	262	7.5	29	257	8.8	31	294	4.6	31	241	9.7	30	289	2.5	31	141	2.4	31	200	2.7	28	282	10.8	29	245	7.5	29	134	1.1
1,500	27	240	3.4	31	356	1.8	29	268	8.4	29	261	11.0	30	297	6.0	29	254	10.8	31	260	3.0	31	206	1.7	31	237	5.5	26	286	13.2	28	257	10.5	29	205	1.4
2,000	27	252	5.9	31	280	1.8	28	269	11.0	28	266	11.5	30	300	7.6	27	267	11.5	31	263	4.6	31	215	2.3	31	253	7.9	26	283	16.1	28	267	12.4	29	218	2.7
2,500	27	254	7.0	31	250	3.5	29	270	13.5	27	272	13.6	30	297	9.2	27	272	12.9	31	278	5.2	31	220	2.6	31	252	10.3	25	283	18.5	28	270	14.7	30	220	3.6
3,000	27	252	7.8	31	257	5.9	28	269	15.6	24	278	16.2	31	289	10.5	26	273	15.0	31	296	8.6	31	247	2.6	30	257	11.6	24	282	20.4	25	274	16.0	30	218	3.8
4,000	28	262	11.0	30	264	10.8	25	270	17.9	21	273	20.3	31	279	12.5	21	280	17.2	30	304	12.7	31	264	4.8	28	262	14.1	16	278	22.2	21	280	18.1	30	226	6.0
5,000	27	258	15.4	29	268	14.4	24	272	19.1	16	270	24.6	31	275	14.6	20	280	21.6	26	313	14.0	30	266	6.6	28	261	17.1	11	287	22.7	16	280	20.7	29	236	7.4
6,000	26	254	19.1	28	275	18.2	22	275	19.9	11	271	27.4	31	274	16.6	15	276	23.7	23	310	15.0	30	279	8.8	28	261	20.5				11	271	22.5	27	237	11.3
8,000	24	256	26.9	20	275	18.4	11	272	25.9				31	273	20.9				15	338	14.2	29	281	15.2	18	265	25.8							22	225	14.5
10,000	18	254	34.3	10	275	14.2							31	274	23.4				12	324	15.0	26	295	18.0										14	254	11.6
12,000	10	256	36.6										29	272	22.7							21	292	23.3												
14,000													24	270	22.4							20	286	24.2												
16,000													21	262	19.5							16	293	18.0												
18,000													20	272	16.4							13	327	8.9												
20,000													10	269	13.5																					

Altitude (meters) m.s.l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul, Is. Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is., Wash. (31 m.)			Washington, D. C. (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	285	2.6	31	139	1.7	31	339	2.8	31	320	1.4	30	22	3.0	31	123	3.2	31	83	4.7	31	304	2.0	31	304	1.2	30	217	2.6	31	266	1.4	31	277	2.4
500	31	306	3.6	31	160	2.6	--	---	----	31	296	2.3	28	12	1.0	31	129	5.3	31	78	8.1	30	12	4.0	31	281	2.5	-	---		31	257	3.3	31	275	7.3
1,000	31	325	3.2	31	210	5.2	30	331	2.6	31	291	5.6	28	253	1.7	31	157	4.5	31	81	8.1	30	17	4.4	31	277	5.6	30	240	5.6	31	254	4.7	31	274	11.2
1,500	31	328	3.1	31	241	7.5	30	312	6.1	31	294	8.1	27	254	3.5	31	216	4.0	31	81	7.2	30	19	4.4	31	291	8.3	30	255	7.5	31	270	6.9	31	270	12.9
2,000	31	322	3.0	30	263	9.1	30	300	8.5	29	291	8.8	27	257	5.2	31	249	6.1	31	77	7.3	31	357	3.6	31	292	9.2	30	269	8.6	31	277	9.1	31	276	14.1
2,500	31	327	3.9	30	269	12.0	30	293	10.7	29	288	10.7	26	232	5.2	31	257	8.3	31	75	7.1	31	331	3.7	31	287	11.5	30	277	9.8	31	286	11.1	31	276	15.5
3,000	31	318	4.4	30	269	14.7	31	292	12.7	29	281	12.1	27	233	5.5	31	261	10.7	31	76	6.4	31	312	4.0	31	287	12.7	30	285	11.1	31	290	13.7	31	272	16.2
4,000	31	316	7.6	27	264	16.8	28	285	17.7	28	273	14.5	27	235	7.9	30	257	13.7	31	63	4.7	31	311	6.0	31	278	16.1	30	290	14.5	31	298	18.2	31	269	20.5
5,000	31	311	10.2	27	264	20.5	24	286	22.8	28	277	18.4	24	232	8.7	30	256	16.0	31	56	3.9	31	302	7.6	31	274	18.1	30	294	18.1	31	304	20.8	31	269	24.0
6,000	31	305	11.6	25	263	22.3	16	286	20.9	27	270	19.3	22	223	10.8	30	257	19.7	31	39	4.5	31	293	9.7	31	278	21.8	30	298	22.0	26	301	20.2	31	270	30.3
8,000	31	304	14.2	16	270	26.0				16	271	14.5	21	212	10.4	28	257	24.0	31	339	6.6	29	283	12.2	27	280	28.1	28	308	27.4	22	302	28.1	31	270	38.4
10,000	31	299	16.6	10	265	26.7				13	262	15.0	16	221	14.4	23	262	31.8	31	285	15.2	24	263	16.6	25	276	30.0	26	302	27.6	18	286	30.2	30	276	44.6
12,000	31	280	18.0							10	281	11.9	14	233	10.0	14	252	39.9	31	279	20.0	20	258	16.6	16	273	20.3	22	293	22.2	17	285	30.4	27	277	46.4
14,000	28	278	18.7										12	242	5.3				31	290	16.1	19	265	18.6	12	274	11.4	15	292	17.0	17	290	21.5	26	279	39.4
16,000	25	271	15.9										12	244	6.4				30	308	8.4	18	265	17.5							15	301	19.0	24	275	29.7
18,000	21	273	14.0																27	45	4.2	16	262	14.5							12	301	12.9	20	270	22.3
20,000	16	279	10.9																27	132	.8	15	264	11.2										19	267	14.2
22,000	11	290	7.0																21	258	6.1	10	286	8.0										15	278	8.4
24,000																			16	279	6.6													10	239	5.9

Altitude (meters) m.s.l.	Yakutat, Alaska (12 m.)		
	No. of observations	Direction	Speed
Surface	31	113	4.0
500	30	118	5.5
1,000	29	143	3.4
1,500	29	191	1.8
2,000	29	254	2.7
2,500	30	267	4.4
3,000	29	279	4.3
4,000	29	279	5.9
5,000	30	290	9.0
6,000	30	294	12.1
8,000	27	287	18.3
10,000	21	293	18.2
12,000	16	300	13.6
14,000	12	294	10.2

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for November 1954

Altitude (meters) m.s.l.	Denver, Colo. (1,661 m.)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul, Ill. (227 m.)			Rome, N. Y. (146 m.)		
	No of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	177	1.2	29	348	0.4	30	77	1.4	30	276	1.4	27	115	1.1
500	-	---	- -	30	39	.6	--	---	- --	27	251	2.8	26	207	1.6
1,000	--	--	- --	30	317	2.3	--	---	----	27	273	5.1	26	252	4.1
1,500	--	---	----	30	319	4 1	25	86	1.2	27	283	5.8	26	260	5.4
2,000	30	276	2.1	30	315	7.1	25	230	1.5	28	289	6.6	26	256	6.2
2,500	30	294	3.0	30	316	5.7	25	268	2.6	28	288	8.3	26	266	6 6
3,000	30	300	4.1	30	311	7.9	23	293	4.1	28	287	8.1	25	272	8.1
4,000	30	316	6.2	30	313	10.3	24	282	6.1	28	292	11.1	25	271	11.4
5,000	30	324	7.2	29	306	13.2	29	298	7.5	30	293	12.1	24	265	13.3
6,000	30	326	9.2	29	303	13.9	30	295	8.2	30	290	14.3	24	270	13.7
8,000	30	325	10.7	29	298	15.9	29	305	11 2	30	290	18.5	23	264	18.5
10,000	30	329	13.2	28	297	16.8	26	311	9.0	30	293	20.6	23	263	21.4
12,000	29	309	12 3	26	297	20.0	26	306	14.4	29	288	20.4	21	268	23.5
14,000	28	306	14.5	23	297	14.8	25	296	14.2	25	281	17.5	21	260	19.5
16,000	27	311	9.7	15	297	9.8	23	292	10.9	19	267	14.6	18	267	15.8
18,000	26	323	6.3	10	316	5.9	20	323	6.3	12	263	6.3	16	254	9.7
20,000	25	16	3.0				19	354	3.9				14	259	9.2
22,000	19	16	4.3				14	22	4.5						
24,000							10	36	5.9						

* December data for the above Air Force stations will be included in the April 1955 issue of this publication.

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. **See note following** Table 22 in the January 1950 issue of the **CLIMATOLOGICAL DATA, National Summary.**

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

MARCH 1955

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, N. MEX.									
	Air mass								
	5.0	4.0	3.0	2.0	•1.5	2.0	3.0	4.0	5.0
Mar.									
1	0.98	1.09	1.19	1.32	----	1.31	1.13	1.03	0.91
3	.93	1.04	1.17	1.27	----	----	----	----	----
4	----	----	----	----	----	----	1.15	--	.96
7	.96	1.06	1.18	1.31	----	1.31	1.14	1.02	.93
8	.95	1.05	1.19	1.30	---	1.35	1.22	1.07	.95
9	----	----	----	----	- -	1.25	1.08	.92	.82
10	- -	----	----	--	----	----	.67#	.55#	.52#
12	----	----	1.06	1.19	----	----	----	- -	
13	.87	.95	1.07	1.19	----	1.19	1.05	.93	.83
14	----	----	----	----	----	1.20	1.01	.90	.
16	---	.41	.73	.83	1.48	- --	----	---	----
18	----	- --	- --	1.07#	----	.93#	---	----	----
21	----	----	---	---	----	.71#	.55#	.43#	.51#
22	.80	.90	1.05	1.20	1.36	1.15	.95	.84	.73
23	.77	.91	1.04	1.19	1.48	1.07#	.98#	.80#	----
24	.77	.88	1.01	1.18	1.41	1.03#	.75#	.76#	.53#
25	.81	.92	----	1.20	1.39		-	--	-
27	.61	.73	.82	----	----	1.17	1.02	.90	.77
28	.80	.88	----	----	--	-	---	-	---
29	.78	.86	----	----	----	1.21#	1.07	.95	.85
30	.74	.85	.99	----	1.43	---	----	----	---
31	----	----	----	----	----	.68#	.63#	.57#	.50#
Averages	.83	.90	1.04	1.19	1.42	1.11	.96	.83	.76
BLUE HILL, MASS.									
	Air mass								
	4.86	3.89	2.92	1.94	•0.97	1.94	2.92	3.89	4.86
Mar.									
2	----	1.05	1.18	1.30	----	----	----	----	----
3	0.99	1.08	1.19	1.32	----	----	-- -	----	----
7	----	1.03	1.15	1.35	----	----	----	---	---
8	.91	1.02	1.16	1.33	----	1.31	1.10	----	----
10	----	----	----	----	----	.90	.76	••	----
12	----	1.02	1.13	----	----	- --	----	----	----
14	.88	.97	1.09	----	----	1.20	1.03	0.91	0.78
17	.87	1.03	1.16	1.28	----	1.31	1.13	1.00	.92
19	----	----	----	----	----	1.23	1.03	.94	.83
20	.70	.84	1.02	----	----	1.17	.95	.82	.72
24	.59	----	----	----	----	---	---	----	----
25	.79	.92	1.08	1.27	----	1.21	----	----	----
27	.41	----	----	----	----	----	----	--	---
28	----	----	----	----	- --	1.23	1.07	.88	.76
29	.78	.88	1.02	1.19	----	1.10	.91	.80	----
30	.89	.98	1.10	1.27	----	----	1.10	.96	.85
31	.86	.97	1.11	1.28	----	1.27	1.11	1.00	.92
Averages	.79	.98	1.12	1.29	----	1.19	1.02	.91	.83
TABLE MOUNTAIN, CALIF.									
	Air mass								
	3.76	3.01	2.26	1.51	•0.75	1.51	2.26	3.01	3.76
Mar.									
1	1.22	1.30	1.40	1.54	----	----	---	----	----
2	1.21	1.31	1.42	1.55	----	----	---	----	----
4	----	----	----	1.50	----	----	---	----	----
5	----	----	---	1.46	----	----	----	----	----
7	----	----	----	1.53	----	----	----	----	----
12	----	----	----	1.47	----	----	- -	----	----
23	----	----	----	1.47	----	---	-- -	----	----
Averages	1.22	1.30	1.41	1.50	----	----		----	----

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
WASHINGTON, D. C. (WBCO)									
	Air mass								
	4.95	3.96	2.97	1.98	•0.99	1.98	2.97	3.96	4.95
Mar.									
1	----	----	----			1.27	1.11	0.95	----
2	----	----	----	1.32	1.47	----	1.08	.92	----
11	----	----	----	-	---		.90	.74	0.59
14	----	----	----	1.13	---	-	--	----	----
17	----	----	-- -	1.22	--	---	---	----	----
23	- -	-	----	-	1.43	1.20	.97	---	----
28	- -		---	-	1.40	-	---	---	----
29	--	-	----	1.11	----	-	---	---	----
30	----	-	----	1.25	1.47	1.29	--	---	----
31	----	----	----	1.05	1.35	1.10	.88	----	---
Averages	----	--	----	1.18	1.42	1.22	.99	.87	.59
MADISON, WIS.									
	Air mass								
	5.0	4.0	3.0	2.0	•1.0	2.0	3.0	4.0	5.0
Mar.									
1	----	----	----	----	----	1.21	0.97	0.87	0.74
2	----	----	----	1.34	----	----	----	----	----
3	----	- --	0.80	1.06	----	----	----	----	----
6	1.01	1.10	1.21	1.36	----	----	----	----	----
12	.86	.96	1.15	1.30	----	1.36	1.16	1.08	.98
13	.88	.98	1.10	1.22	----	----	----	----	----
16	----	----	----	- -	----	1.32	1.08	.97	.85
18	.88	1.00	1.13	1.30	----	1.29	1.14	.99	.87
19	---	---	----	----	----	.88	.52	.39	----
23	.81	.90	1.03	1.19	----	----	----	----	----
24	.96	1.03	1.17	1.35	----	----	- --	----	----
27	.88	.98	1.14	1.34	----	1.34	1.15	1.01	.90
28	.79	.93	1.15	1.25	----	1.26	1.07	.93	.85
29	---	.80	.98	1.21	----	1.24	1.05	.91	.77
30	---	.81	.89	---	----	1.04	.75	.53	----
31	.72	.81	.95	1.11	----	1.04	.80	.63	----
Averages	.89	.94	1.06	1.25	----	1.20	.97	.83	.85
LINCOLN, NEBR.									
	Air mass								
	4.77	3.81	2.86	1.91	•0.95	1.91	2.86	3.81	4.77
Mar.									
1	0.83	0.96	1.07	1.22	1.40	----	----	----	----
8	.81	.92	1.07	1.22	1.40	1.24	1.06	----	----
9	.79	.96	1.09	1.24	1.42	----	----	----	----
12	.90	.98	1.09	1.24	1.42	1.22	1.05	0.90	0.79
15	----	----	----	°.98	°1.25	°1.07	°.86	----	----
16	.81	.94	1.06	1.20	1.35	°1.14	°.98	°.85	°.70
18	.83	.94	1.04	1.20	1.35	°1.14	°.90	°.79	°.68
19	°.41	°.54	°.70	°.94	°1.24	°1.03	°.73	°.52	----
22	.81	.92	1.04	1.22	1.38	----	----	----	----
23	°.49	°.68	°.90	----	----	----	----	----	----
28	.77	.87	1.02	1.20	1.45	1.20	1.01	.88	.77
30	- --	----	°.90	°1.09	°1.30	°1.01	°.79	°.64	°.52
Averages	.75	.87	1.00	1.16	1.36	1.13	.92	.76	.58

• Extrapolated
•• Smoke
Dust within 45 degrees of sun.
° Values reduced due to dust in the air.

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of Tables 30 and 31 and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the Monthly Weather Review, vol. 72, No. 1, January 1944, p. 43. A list of pyrheliometric stations is given on page 45 of that issue. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date-----------	5	[illegible]	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys-------	44	49	110	117	78	86	79	81	67	74	71	77	19	80	80	67	87	75	41	20	87	89	87	69
Date-----------	26	27	28	29	30	31	1																	
Langleys-------	20	102	99	82	82	80	84	78																

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date-----------	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys-------	46	45	330	344	77	132	117	156	295	99	293	207	15	332	72	188	149	277	35	14	266	279	308	190
Date-----------	26	27	28	29	30	31	1																	
Langleys-------	14	282	305	328	334	344	310	274																

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date-----------	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys-------	21	30	427	555	98	327	196	236	490	303	496	307	12	547	105	323	346	496	43	21	226	319	480	276
Date-----------	26	27	28	29	30	31	1																	
Langleys-------	20	289	361	453	467	462	444	357																

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date-----------	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys-------	47	55	160	388	101	297	131	169	313	226	339	121	24	371	129	218	356	332	37	12	170	189	289	198
Date-----------	26	27	28	29	30	31	1																	
Langleys-------	15	211	369	334	375	378	359	292																

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date-----------	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys-------	49	56	114	75	112	148	164	103	50	129	56	135	25	77	106	83	---	---	55	12	150	166	79	92
Date-----------	26	27	28	29	30	31	1																	
Langleys-------	14	165	168	91	75	73	101	98																

Note: Langley is the unit used to denote one gram calorie per square centimeter.

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N.C., during the month. MARCH 1955

Date----------------	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Langleys------------	48.2	173.6	*82.6	154.5	182.9	*32.6	177.1	124.8	193.2	92.2	166.1	*137.1	*178.4	*62.8	*72.1	*93.3	*203.8	*36.4	*-45.4	155.2	*76.8	*116.1	*216.8
Date----------------	24	25	26	27	28	29	30	31	Avg.														
Langleys------------	227.6	200.4	167.6	197.5	157.5	183.6	244.0	233.2	140.1														

* Estimated values owing to occurrence of rain during period. While rain is falling radiation is assumed to be zero.

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Raleigh State College. The instrument with which they were measured has not been checked by the Weather Bureau.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

MARCH 1955

	Aklavik, MacKenzie	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	East Wareham, Mass.	Edmonton, Alberta	El Paso, Texas	Ely, Nevada	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nevada
1955																																								
Mar. 5----	81	377	54	445	403	402	117	124	471	59	446	---	432	649	217	(437)	---	53	438	---	101	56	327	430	522	110	182	436	441	474	442	328	375	511	34	543	55	421	525	516
Mar. 6----	86	451	54	477	392	93	142	191	435	64	343	53	541	531	195	359	---	494	447	580	406	55	239	388	517	112	294	457	275	528	166	138	161	411	390	573	50	285	448	519
Mar. 7----	164	592	136	481	410	430	162	114	255	373	444	400	121	---	338	226	---	442	437	571	434	373	289	574	524	119	547	474	451	530	343	502	378	310	429	583	295	362	515	533
Mar. 8----	123	587	94	591	111	549	89	120	385	445	423	439	92	422	419	546	---	501	355	568	184	469	211	544	514	98	561	438	534	497	340	440	579	587	381	576	437	581	501	534
Mar. 9----	181	423	141	544	244	513	146	154	411	144	129	113	565	---	351	494	---	487	241	446	394	257	218	573	202	115	507	341	372	302	405	462	545	596	421	468	224	192	476	272
Mar. 10----	185	345	261	568	50	240	179	278	266	313	160	308	579	632	443	332	---	481	428	307	214	313	118	562	526	132	536	273	496	519	260	183	235	434	116	584	392	408	530	529
Mar. 11----	152	206	183	562	84	274	200	321	99	232	396	249	574	631	153	441	---	498	459	284	478	222	250	535	333	224	501	459	495	400	320	287	348	426	474	556	121	548	514	536
Averages-----	139	426	132	524	242	357	148	186	332	233	335	260	415	573	302	(405)	---	422	401	459	316	249	236	515	448	130	447	411	438	464	325	334	375	468	321	555	225	400	501	491
Mar. 12----	169	588	364	550	297	465	204	298	414	439	166	485	568	563	452	431	---	482	412	481	412	473	113	452	525	228	(498)	494	443	492	284	382	511	360	440	600	421	549	420	541
Mar. 13----	215	602	404	557	253	425	222	119	434	296	281	267	517	584	215	431	---	443	466	564	469	340	330	622	533	211	471	(499)	458	498	450	325	490	478	279	536	145	417	409	525
Mar. 14----	190	501	334	562	---	173	110	---	379	451	363	444	565	583	525	251	---	323	490	455	450	473	429	608	504	106	362	519	503	462	223	256	138	65	460	582	470	517	453	552
Mar. 15----	245	566	81	597	327	286	181	152	298	330	505	340	587	645	408	450	---	36	487	533	70	378	406	607	562	201	248	(513)	462	368	496	69	295	413	249	577	117	449	545	537
Mar. 16----	240	313	239	594	342	177	156	309	416	31	466	37	595	639	157	482	---	535	502	501	320	77	316	157	---	96	243	509	408	255	263	273	281	465	406	615	45	527	580	536
Mar. 17----	239	583	314	(544)	433	348	158	309	295	495	494	501	518	694	413	522	---	73	475	347	410	515	212	402	592	189	199	---	578	322	517	340	456	625	200	645	335	488	423	594
Mar. 18----	230	589	302	612	462	160	137	278	335	153	491	168	458	689	414	525	---	532	481	546	385	125	260	416	593	238	69	526	490	596	250	215	150	247	516	657	236	437	579	606
Averages-----	218	534	291	(574)	352	291	167	244	367	314	395	320	544	628	369	442	---	346	473	489	359	340	295	466	552	181	(298)	(510)	477	427	355	266	332	379	364	602	253	484	487	556
Mar. 19----	187	584	276	534	490	72	191	368	290	356	415	389	397	653	540	179	570	524	502	437	541	463	455	571	577	244	171	513	445	501	379	59	45	43	499	644	464	383	179	608
Mar. 20----	289	340	86	414	493	81	204	370	318	485	469	---	445	---	405	399	379	42	512	88	349	257	365	483	549	273	134	558	545	293	502	170	76	272	157	630	492	353	506	601
Mar. 21----	166	553	385	587	76	221	279	374	495	80	316	---	498	624	520	534	164	44	464	399	88	102	390	664	---	286	194	546	514	627	346	188	320	477	52	640	31	303	635	620
Mar. 22----	166	659	465	381	442	594	208	353	174	28	108	34	501	661	327	---	189	634	510	640	100	40	325	686	(459)	281	630	548	164	576	283	462	611	310	358	---	96	666	515	597
Mar. 23----	295	648	484	568	146	636	136	260	460	267	406	324	596	593	181	667	586	449	487	596	504	289	407	676	574	252	620	(559)	394	484	327	590	667	647	510	660	403	(609)	641	611
Mar. 24----	308	648	442	408	186	589	264	295	336	372	428	337	618	634	306	603	616	573	497	569	404	448	450	679	542	308	585	544	60	424	511	563	621	670	568	643	255	614	353	611
Mar. 25----	320	632	74	560	89	---	271	383	347	515	413	511	617	672	312	581	279	251	395	409	334	526	449	675	535	214	273	480	383	355	600	216	582	623	110	613	407	590	655	571
Averages-----	247	581	316	493	246	365	222	343	346	300	365	319	525	640	370	494	398	359	481	448	332	304	406	633	(539)	265	372	(536)	358	466	421	321	417	435	322	638	307	(502)	498	603
Mar. 26----	325	602	32	535	---	487	239	441	531	24	499	18	196	618	434	404	298	551	479	566	349	40	459	491	610	260	564	501	452	653	593	344	486	626	458	645	226	263	646	626
Mar. 27----	240	647	141	598	---	657	285	217	554	357	477	348	253	---	355	626	353	440	156	656	580	393	335	625	585	278	622	236	9	642	417	---	687	693	487	---	193	593	639	587
Mar. 28----	205	558	147	72	---	267	---	393	412	441	271	470	---	---	398	(197)	677	634	512	675	602	454	434	496	266	323	645	539	406	504	424	---	229	520	514	643	247	---	409	557
Mar. 29----	327	668	186	696	---	644	---	403	530	527	162	527	427	638	511	611	682	614	439	626	563	554	395	680	535	303	(587)	517	631	609	489	---	665	563	571	708	229	---	543	650
Mar. 30----	231	618	273	431	140	600	---	412	536	545	363	550	350	597	558	615	618	610	558	648	574	560	51	695	503	355	616	613	510	466	549	---	594	697	555	688	602	632	218	644
Mar. 31----	282	618	356	(639)	103	597	---	470	379	541	461	570	630	661	378	601	623	587	581	186	551	561	441	667	632	366	357	598	566	627	498	---	629	656	556	719	582	---	626	654
Apr. 1----	312	694	390	(612)	448	489	---	461	537	516	146	577	218	598	603	598	622	246	462	537	544	554	269	647	573	309	(337)	577	446	666	381	---	526	602	492	696	554	494	586	634
Averages-----	275	629	218	(512)	---	534	---	399	497	422	340	437	346	622	463	(522)	553	526	455	556	537	445	341	614	529	313	(532)	511	431	595	479	---	545	622	519	683	376	495	524	622

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

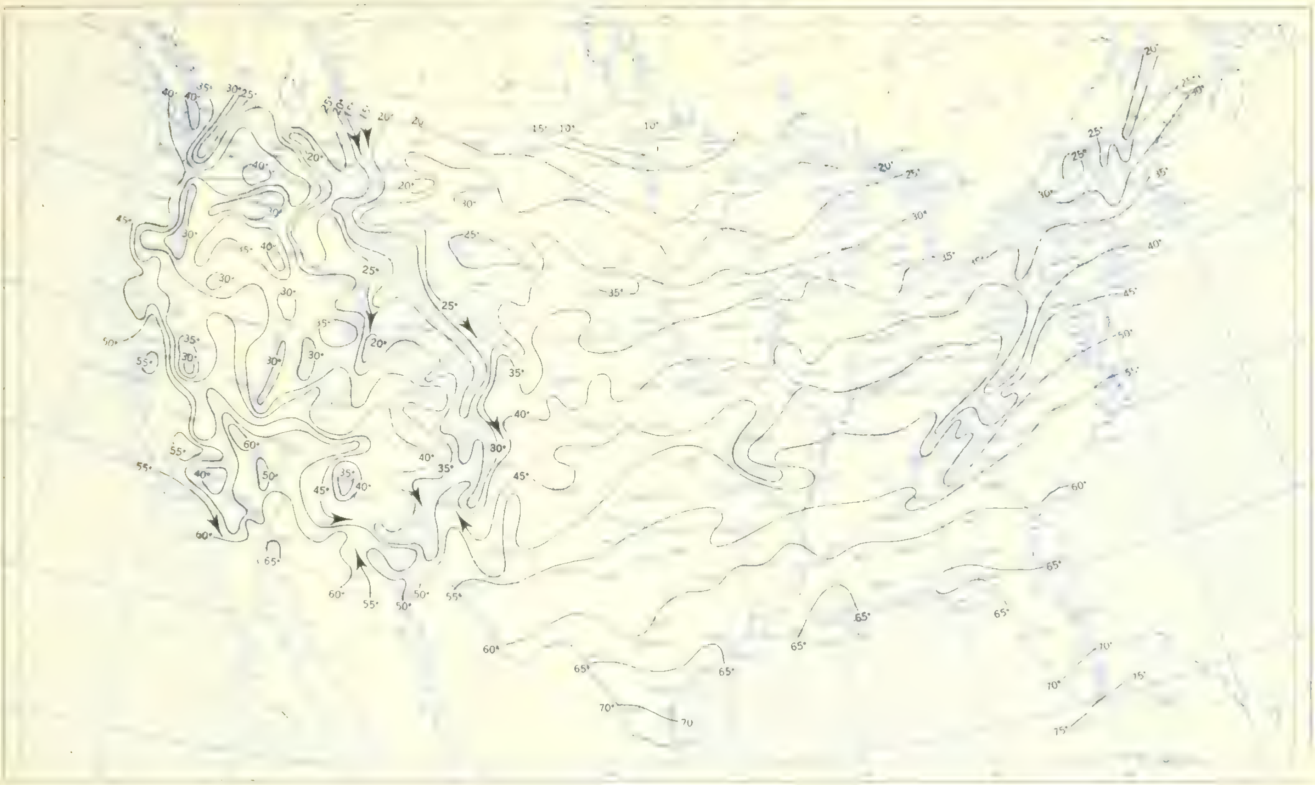
Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued

1955	Lemont, Ill.	Lincoln, Nebr.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Prosser 4 NE, Wash.	Rapid City, S. Dak.
Mar. 5	84	299	172	349	(393)	199	46	467	625	397	234	84	51	286	293	---	328	122	442	471
Mar. 6	401	406	274	495	489	317	85	456	627	480	---	48	35	67	341	---	491	91	437	431
Mar. 7	341	229	476	519	518	365	97	---	617	539	482	390	285	548	520	470	588	432	440	445
Mar. 8	424	448	498	447	457	400	152	440	542	539	522	482	473	485	554	378	580	474	428	439
Mar. 9	400	450	164	492	463	431	156	185	652	488	501	307	338	508	435	137	579	155	343	464
Mar. 10	180	371	500	211	184	(260)	161	133	528	498	230	330	348	54	415	399	364	453	172	210
Mar. 11	440	412	303	315	252	341	291	282	603	490	118	290	237	252	411	131	430	243	240	419
Averages	324	374	341	404	(394)	(331)	141	327	599	490	348	276	252	314	424	303	480	282	357	411
Mar. 12	507	483	243	428	296	466	291	190	641	201	180	471	294	267	439	324	584	454	361	485
Mar. 13	448	399	314	445	454	406	263	200	599	540	76	400	515	160	512	297	610	105	234	254
Mar. 14	404	170	269	---	417	108	93	367	592	545	---	502	460	480	422	481	604	476	370	160
Mar. 15	25	472	305	327	343	268	116	529	673	507	103	376	143	125	460	329	(558)	307	497	395
Mar. 16	465	499	235	534	470	507	---	524	(646)	280	329	73	80	237	341	306	607	43	219	520
Mar. 17	243	184	71	541	525	262	312	522	495	438	132	540	558	118	---	526	637	520	---	435
Mar. 18	555	503	134	568	540	510	271	499	605	161	222	140	118	129	122	303	609	225	---	521
Averages	378	387	224	474	435	361	224	405	(607)	382	174	358	310	217	383	367	(601)	304	336	396
Mar. 19	527	485	144	554	(532)	460	261	402	621	518	155	530	520	96	208	545	629	531	---	453
Mar. 20	169	43	97	581	572	263	336	547	606	546	165	535	496	233	346	243	333	513	---	420
Mar. 21	61	317	93	549	534	92	346	339	582	583	44	117	40	168	189	113	665	178	---	623
Mar. 22	352	536	594	566	530	451	350	186	491	696	479	27	22	295	627	39	655	61	---	497
Mar. 23	375	389	561	535	535	464	324	225	635	541	585	357	577	626	601	283	662	457	---	382
Mar. 24	584	141	201	520	512	536	360	249	308	608	456	461	419	525	596	247	655	418	---	459
Mar. 25	185	501	125	538	549	322	177	506	466	587	181	561	546	82	254	543	655	559	---	619
Averages	322	345	259	549	(538)	370	308	351	530	583	295	370	374	289	403	288	608	388	---	493
Mar. 26	549	459	613	567	549	535	195	454	482	531	516	38	38	367	667	143	634	79	---	493
Mar. 27	639	601	608	426	449	584	211	(181)	362	572	591	419	348	648	598	377	647	405	---	606
Mar. 28	628	578	503	488	521	(584)	327	237	283	547	521	496	630	333	649	418	512	549	---	419
Mar. 29	604	479	574	535	558	558	397	367	344	630	606	577	467	628	610	527	662	464	---	566
Mar. 30	554	540	453	613	578	532	419	366	452	604	571	586	625	616	614	589	670	566	---	567
Mar. 31	583	244	561	590	597	536	267	461	504	463	596	586	596	597	328	528	699	574	---	465
Apr. 1	515	428	242	613	602	476	---	315	522	546	355	555	570	525	338	526	714	586	---	595
Averages	582	476	508	548	551	(544)	303	(340)	421	550	537	465	468	531	543	444	648	460	---	530

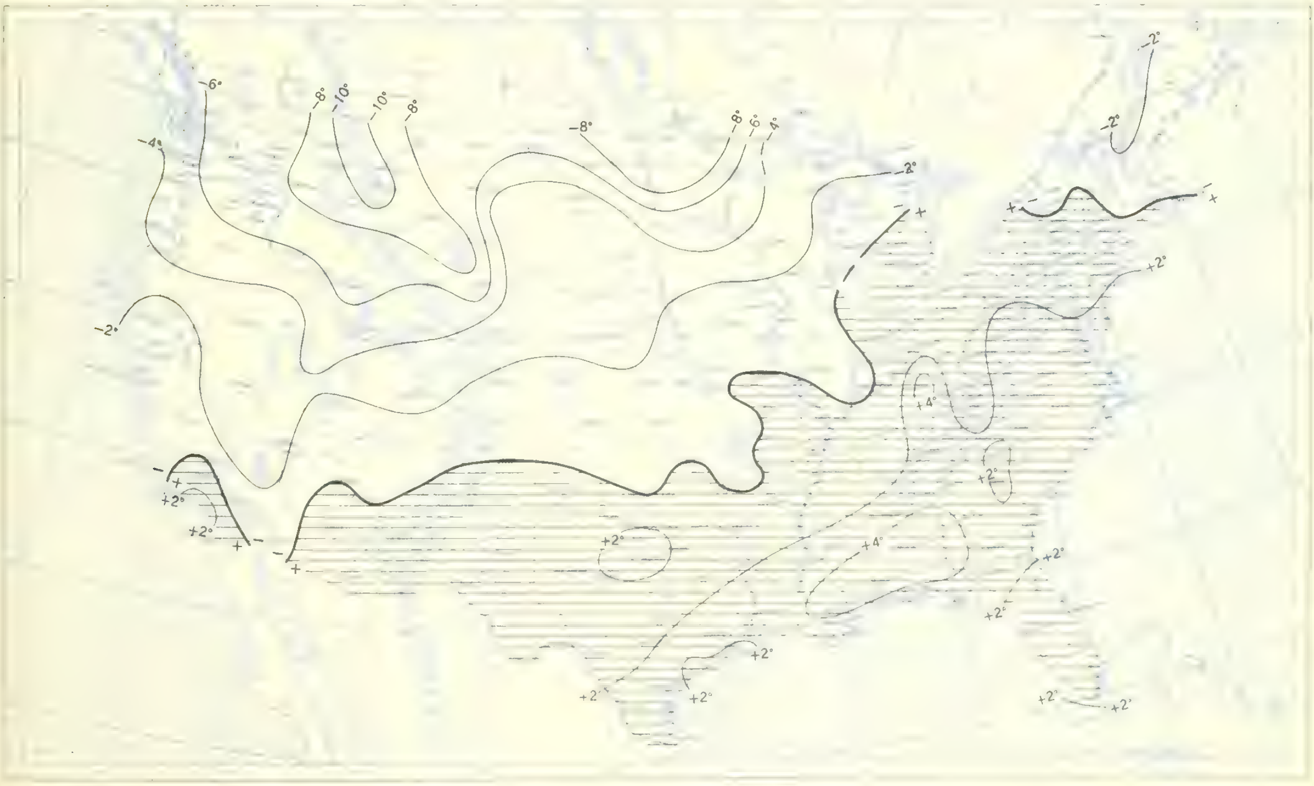
1955	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Texas	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Toronto, Ontario	Upton, N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
Mar. 5	391	414	(459)	387	472	276	85	130	77	350	373	368	50	149	500	82	92	599	88	411
Mar. 6	387	474	(434)	115	(529)	440	50	50	38	266	273	437	42	441	551	224	(65)	598	22	444
Mar. 7	391	576	(324)	107	526	395	339	315	387	215	297	460	250	477	462	355	308	543	440	364
Mar. 8	391	505	(364)	569	509	298	492	337	431	59	100	373	257	509	565	334	492	550	461	371
Mar. 9	294	513	(448)	398	(424)	301	345	174	327	167	180	378	394	412	570	155	342	353	376	170
Mar. 10	174	277	(301)	431	417	256	402	326	383	162	201	218	324	360	570	329	374	506	404	401
Mar. 11	220	537	(371)	557	389	457	288	75	164	121	107	289	201	329	538	244	312	(572)	162	175
Averages	321	471	(386)	367	(467)	346	286	201	258	191	219	360	217	382	537	246	(284)	(532)	279	334
Mar. 12	373	462	(196)	541	440	98	349	391	354	246	200	290	416	446	543	165	360	574	283	441
Mar. 13	200	422	(341)	260	556	445	520	281	488	184	278	254	451	475	540	229	516	536	500	176
Mar. 14	286	413	(69)	256	571	200	537	428	477	151	248	400	444	452	542	415	533	543	513	407
Mar. 15	445	472	(488)	202	578	238	268	165	82	231	346	595	24	221	558	101	296	(584)	65	464
Mar. 16	402	492	(526)	104	566	286	80	42	170	137	177	330	108	402	582	356	98	608	233	513
Mar. 17	443	620	(204)	325	591	449	595	445	500	313	371	519	481	57	544	359	573	606	442	449
Mar. 18	456	624	(282)	261	592	451	124	202	164	167	313	458	245	197	581	262	(124)	445	240	360
Averages	372	501	(301)	278	556	310	353	279	319	204	276	407	310	321	556	270	(357)	(557)	325	401
Mar. 19	403	610	272	261	425	215	518	423	386	425	378	437	481	164	582	504	541	616	480	468
Mar. 20	349	612	241	272	606	529	588	437	492	309	338	513	407	190	586	426	563	627	354	465
Mar. 21	223	558	400	599	608	122	54	60	45	111	93	256	4	112	562	29	63	593	53	531
Mar. 22	444	594	554	630	602	64	27	65	241	344	395	428	91	609	193	133	25	548	298	514
Mar. 23	484	589	298	634	612	432	567	258	---	171	444	285	509	555	299	362	558	160	580	244
Mar. 24	343	580	476	626	597	380	466	167	---	323	331	576	368	557	86	298	---	209	437	549
Mar. 25	299	587	477	615	547	502	555	420	428	129	175	472	323	176	461	326	583	278	311	449
Averages	364	590	388	520	571	321	396	261	318	259	308	424	312	338	396	297	389	433	331	460
Mar. 26	440	617	360	257	573	387	55	47	97	320	370	541	242	609	183	142	71	479	180	564
Mar. 27	320	530	564	331	297	601	436	226	450	365	405	358	315	597	420	455	474	631	607	557
Mar. 28	206	614	549	645	410	433	617	416	558	141	164	259	399	608	42	530	639	656	603	431
Mar. 29	365	617	481	490	506	584	494	417	422	370	265	239	271	595	689	547	531	553	386	534
Mar. 30	287	593	521	594	653	584	637	512	562	154	110	441	559	585	430	585	637	535	587	521
Mar. 31	186	654	465	324	649	528	608	472	555	97	106	296	533	219	339	540	613	665	560	---
Apr. 1	261	651	557	622	639	439	600	452	520	407	434	204	498	213	---	535	591	522	564	---
Averages	295	611	500	466	532	508	492	363	452	265	265	334	402	489	351	476	508	577	498	502

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Chart I. A. Average Temperature (°F.) at Surface, March 1955.

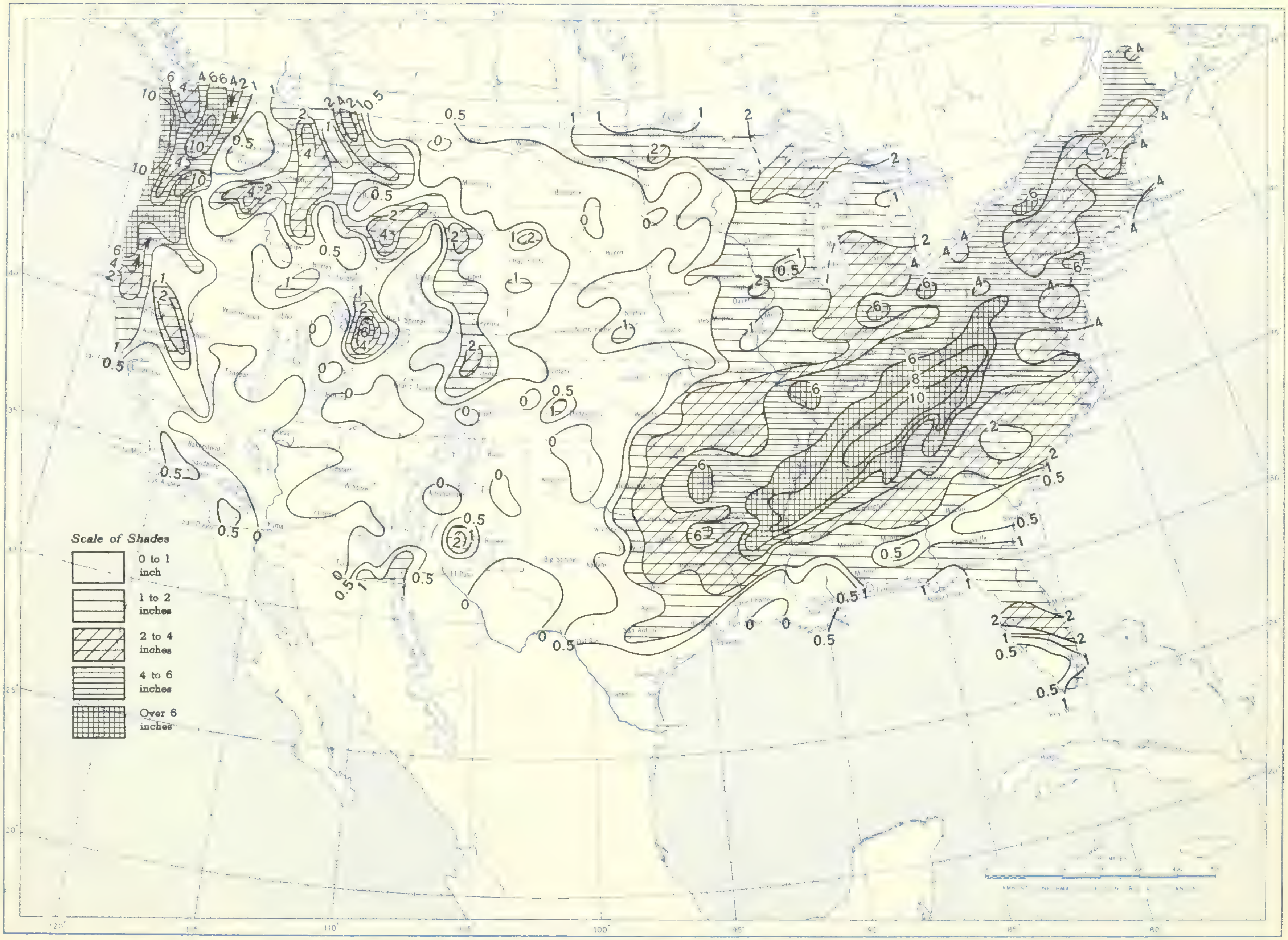


B. Departure of Average Temperature from Normal (°F.), March 1955.



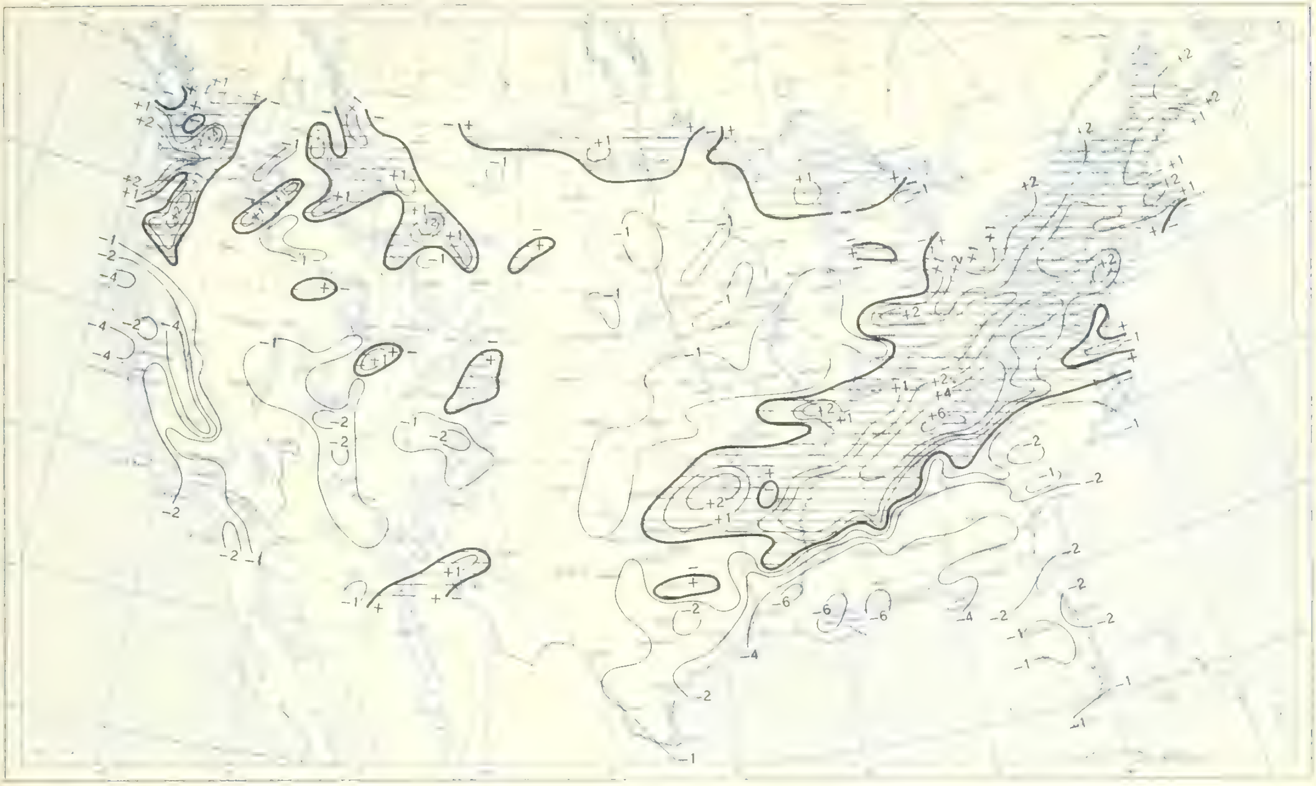
A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), March 1955.

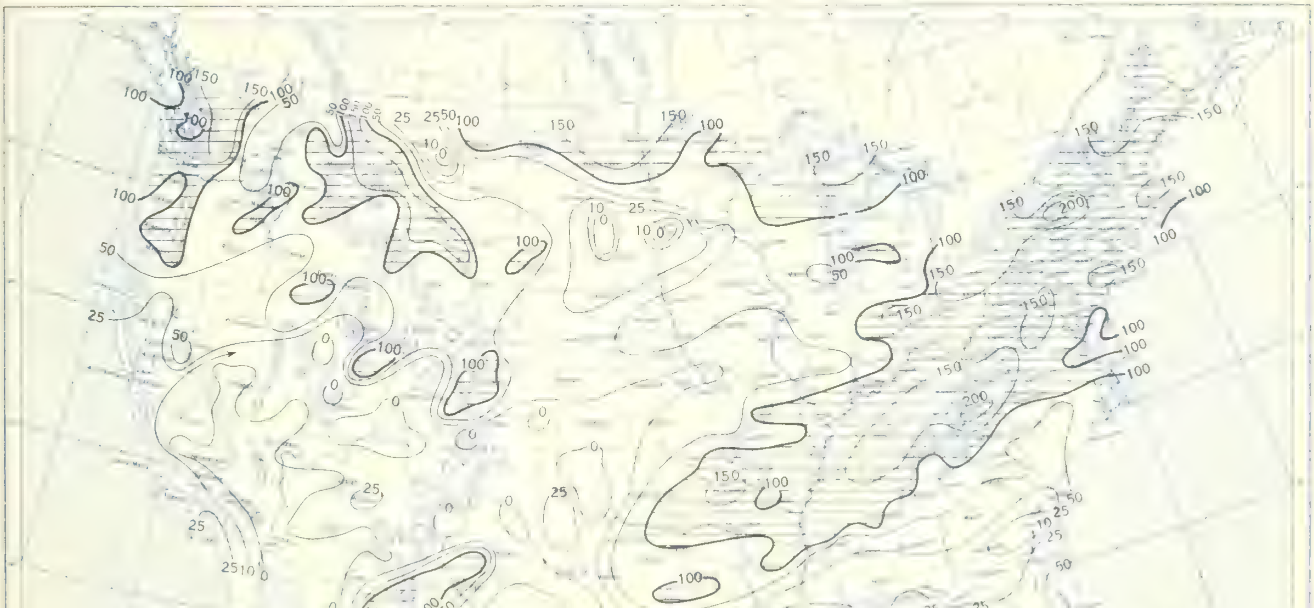


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), March 1955.

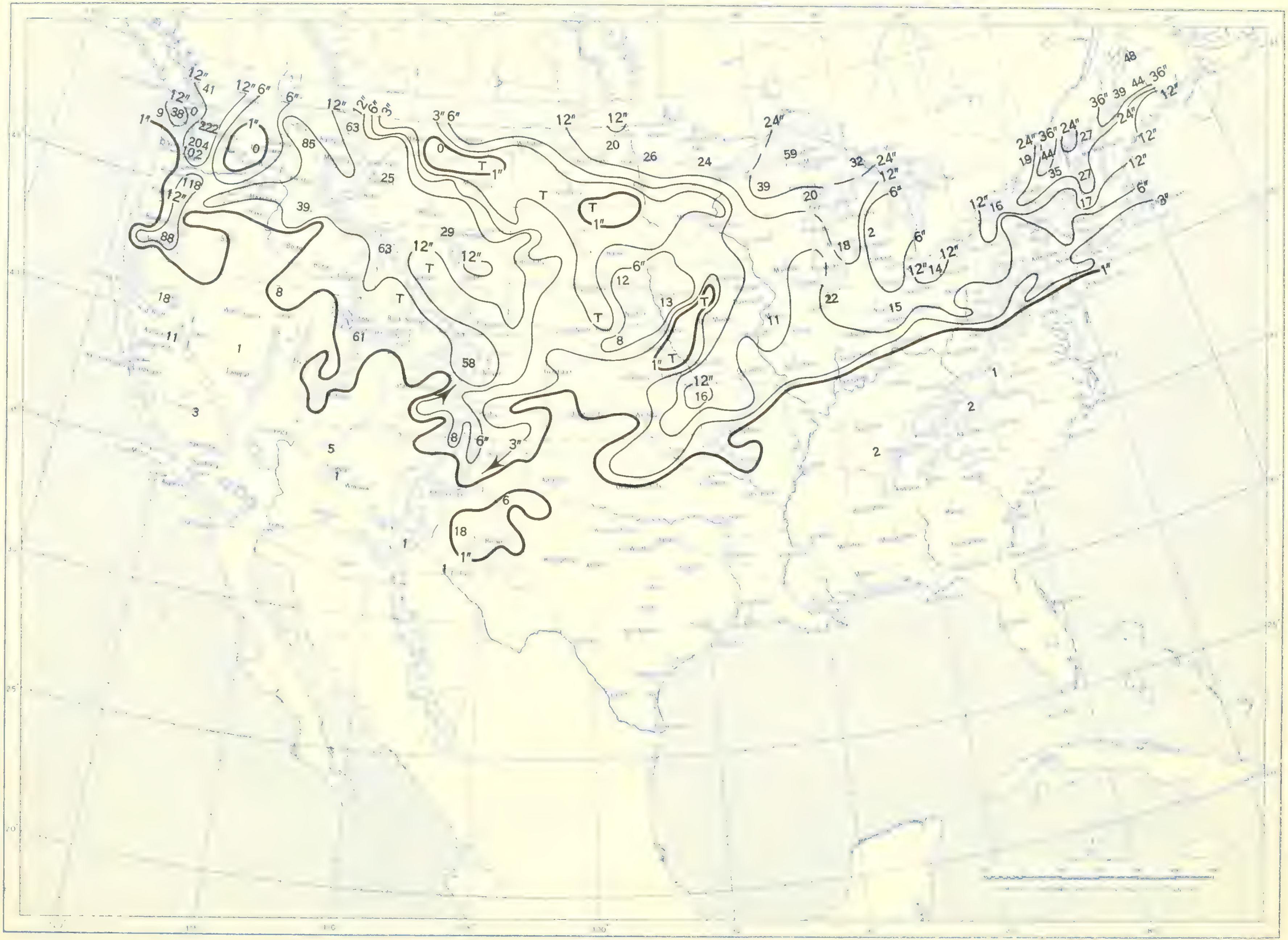


B. Percentage of Normal Precipitation, March 1955.



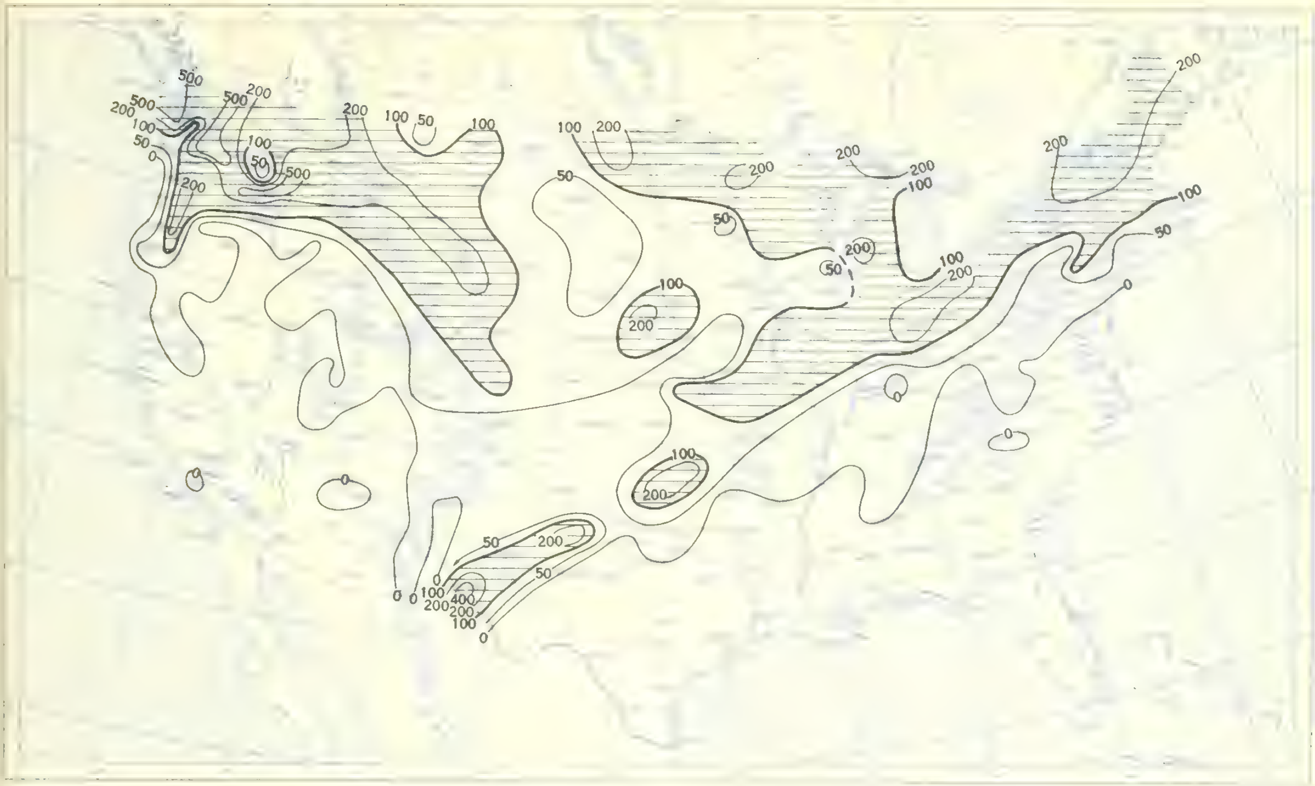
Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart IV. Total Snowfall (Inches), March 1955.

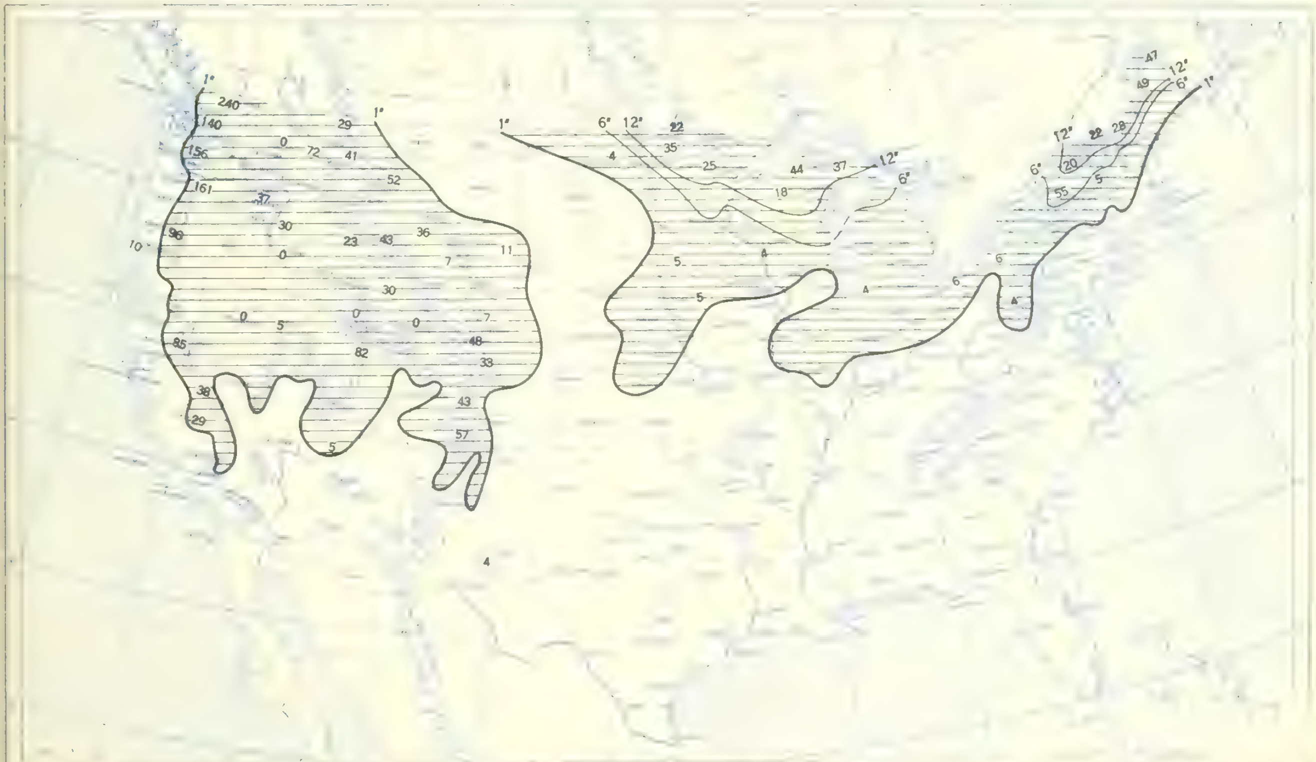


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Normal Snowfall, March 1955.

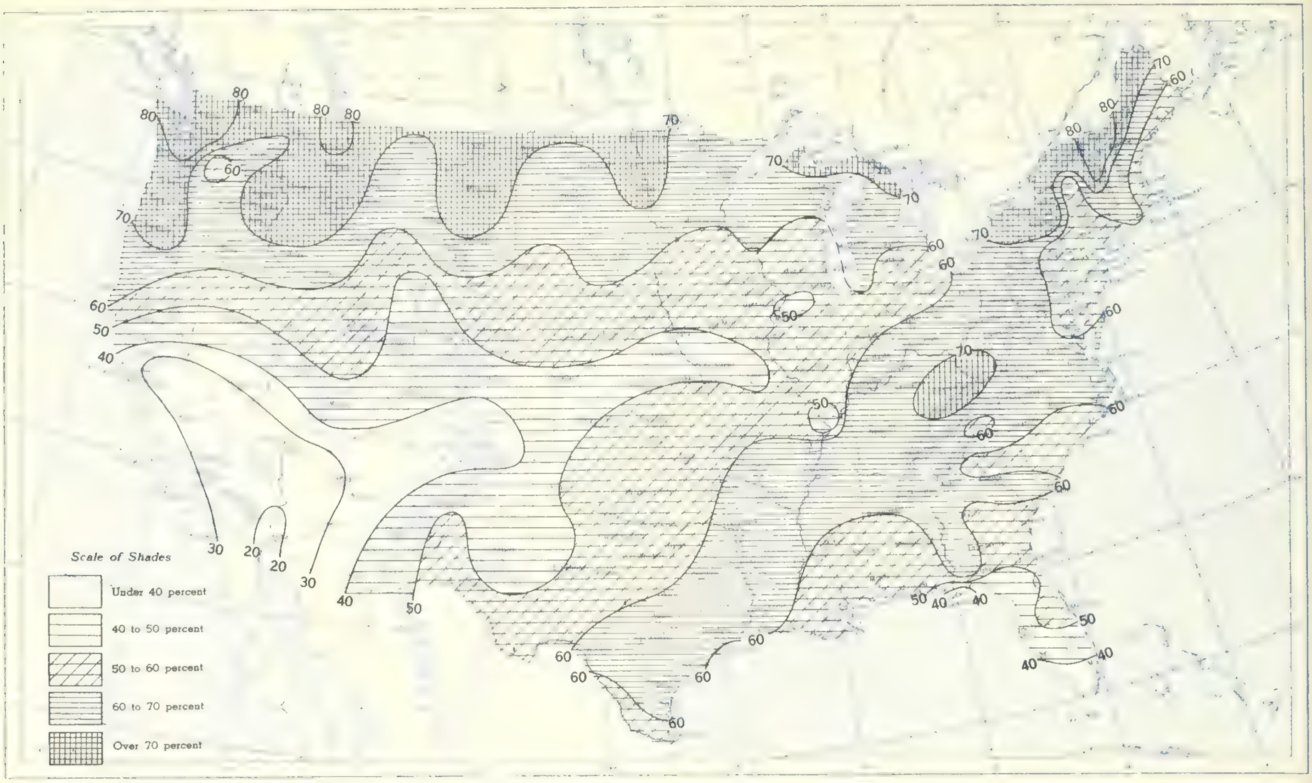


B. Depth of Snow on Ground (Inches). 7:30 a. m. E. S. T., March 28, 1955.

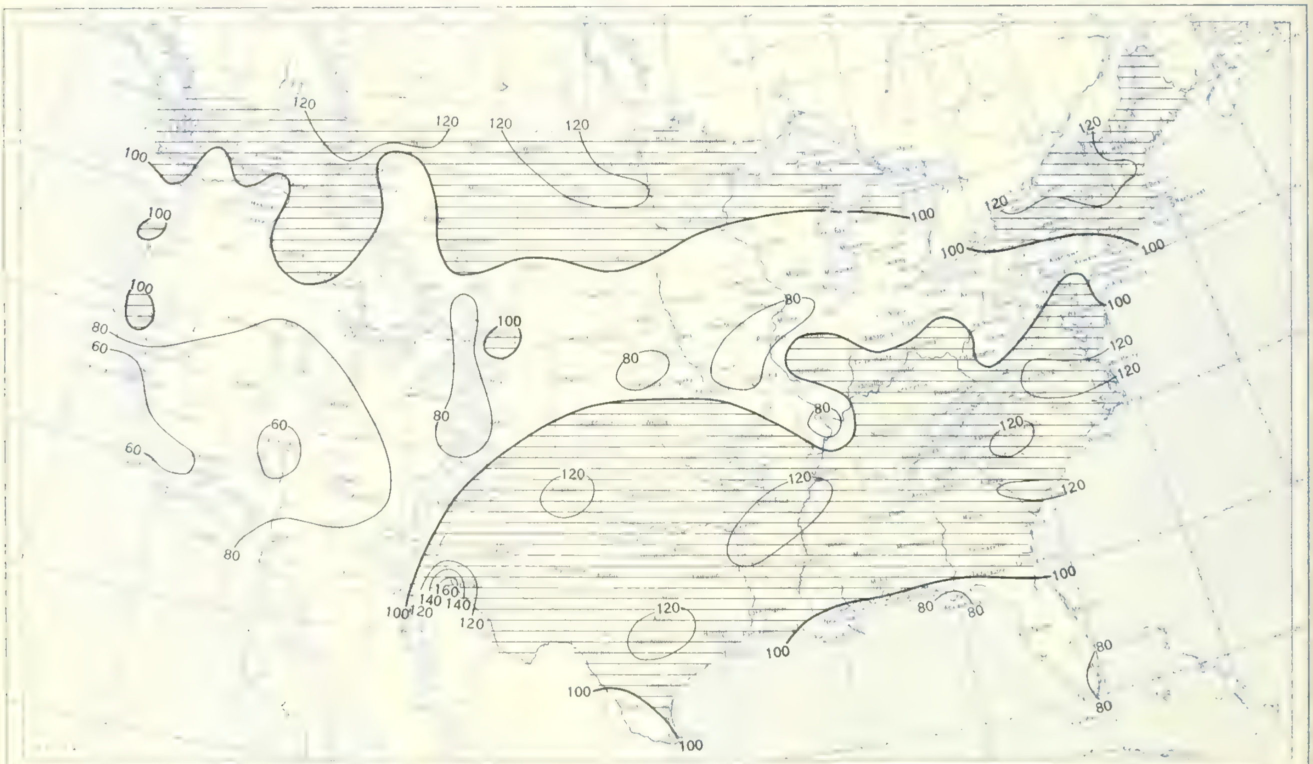


A. Amount of normal monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:30 a. m. E. S. T., of the Tuesday nearest the end of the month. It is based on reports from Weather Bureau and cooperative stations. Dashed line shows greatest southern extent of snowcover during month.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, March 1955.

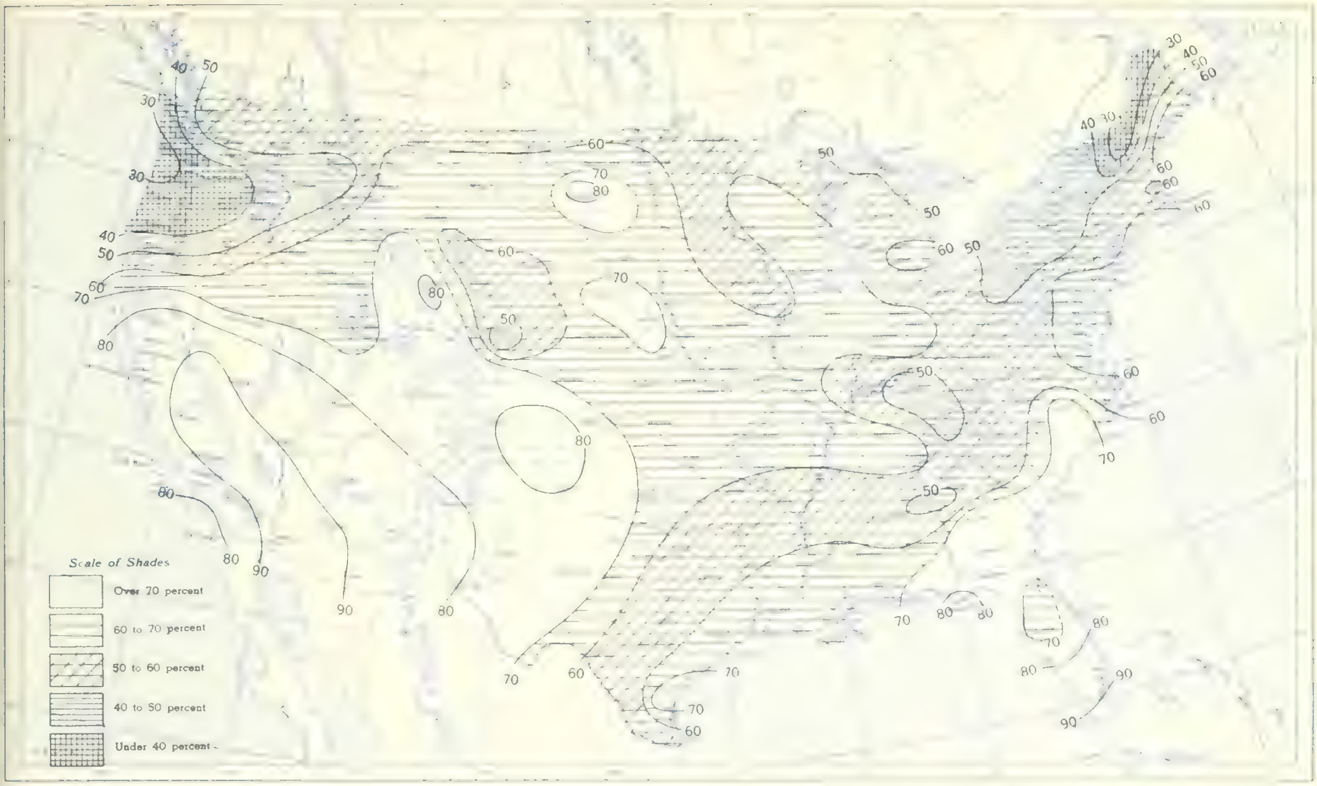


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, March 1955.

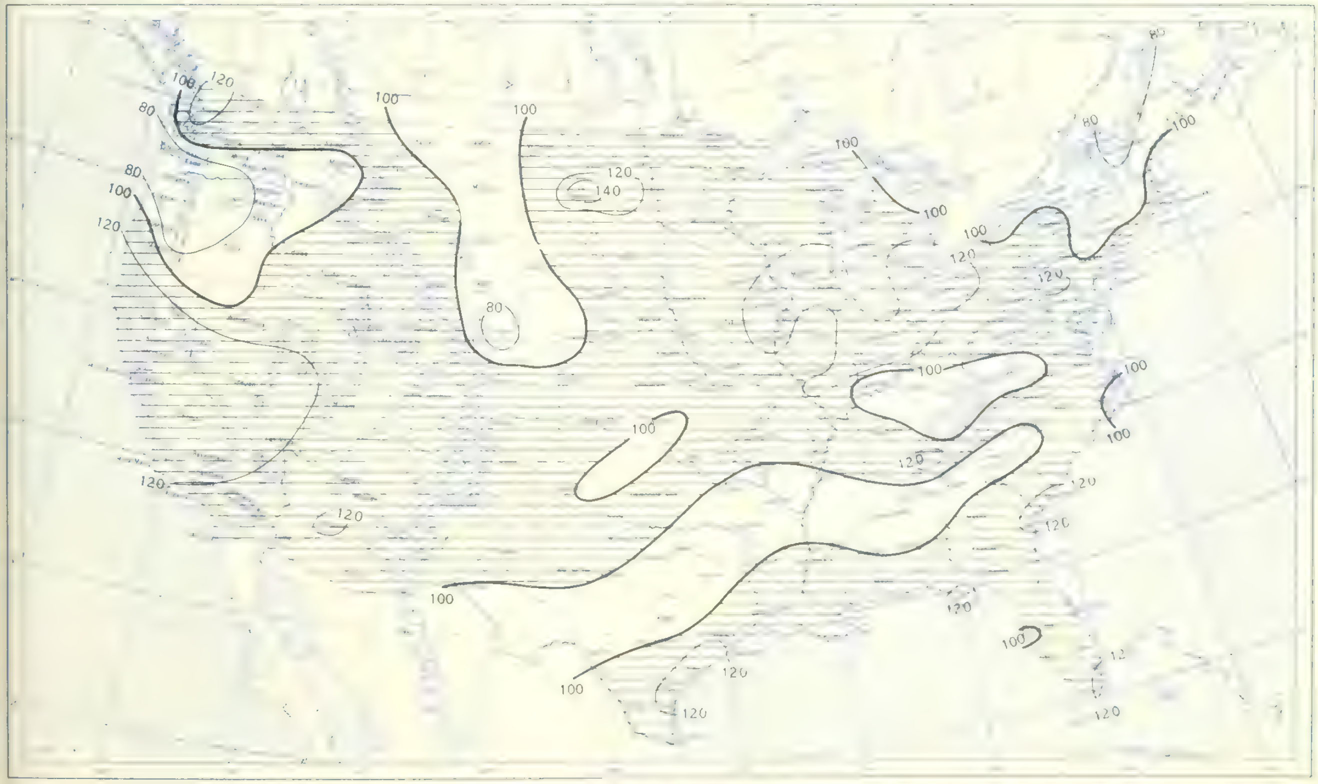


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, March 1955.



B. Percentage of Normal Sunshine, March 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, March 1955. Inset: Percentage of Normal Average Daily Solar Radiation.

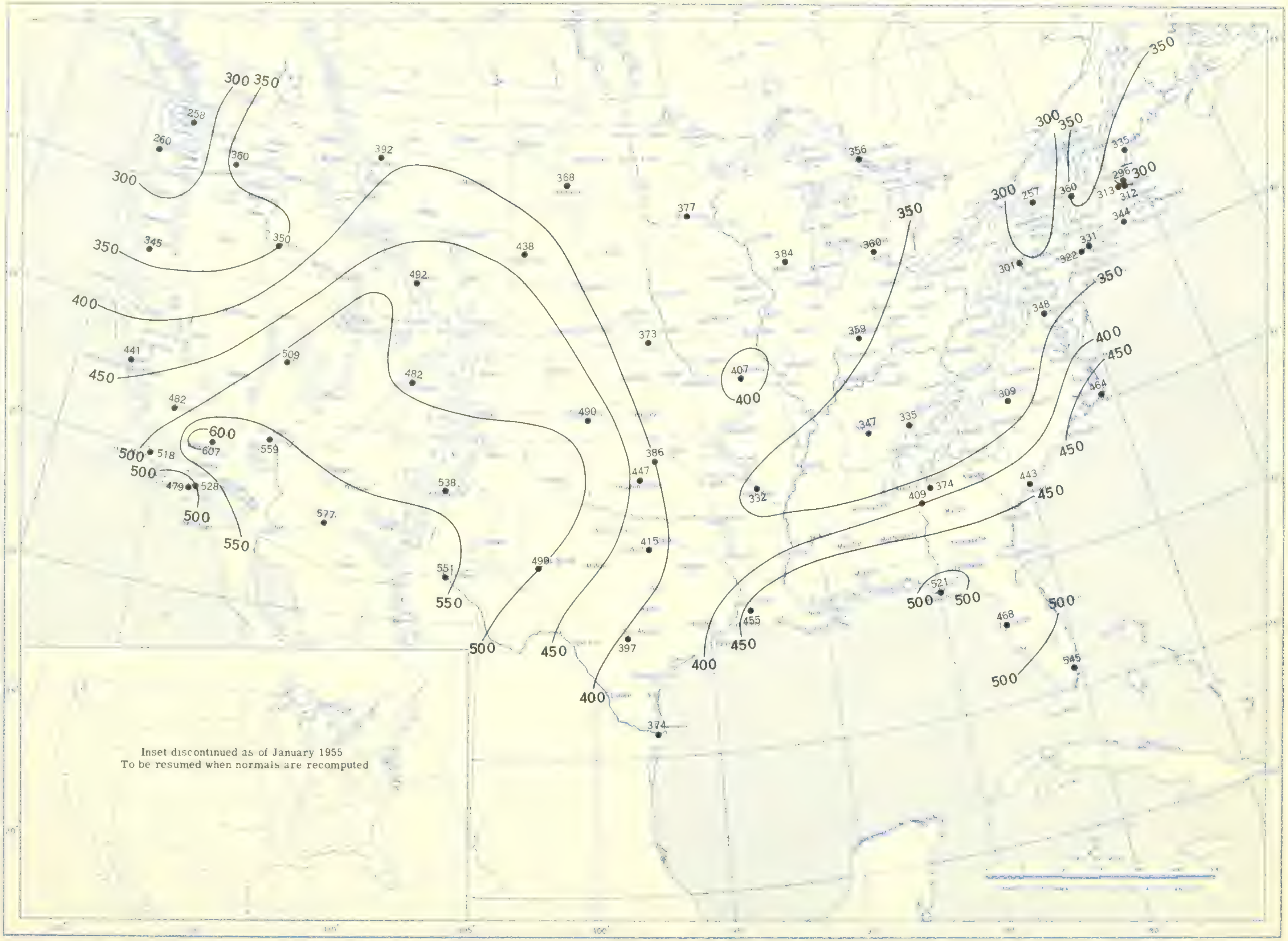
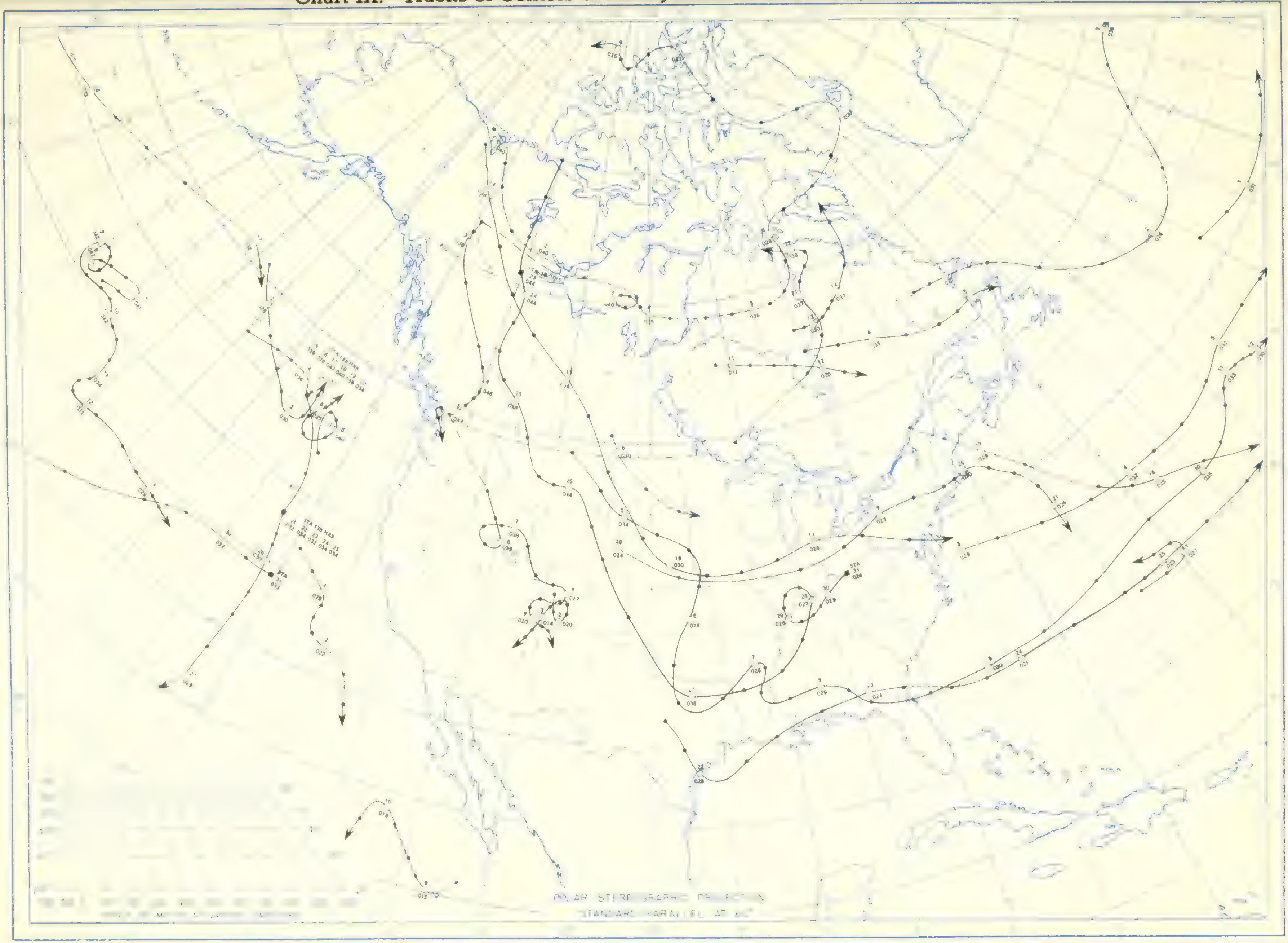


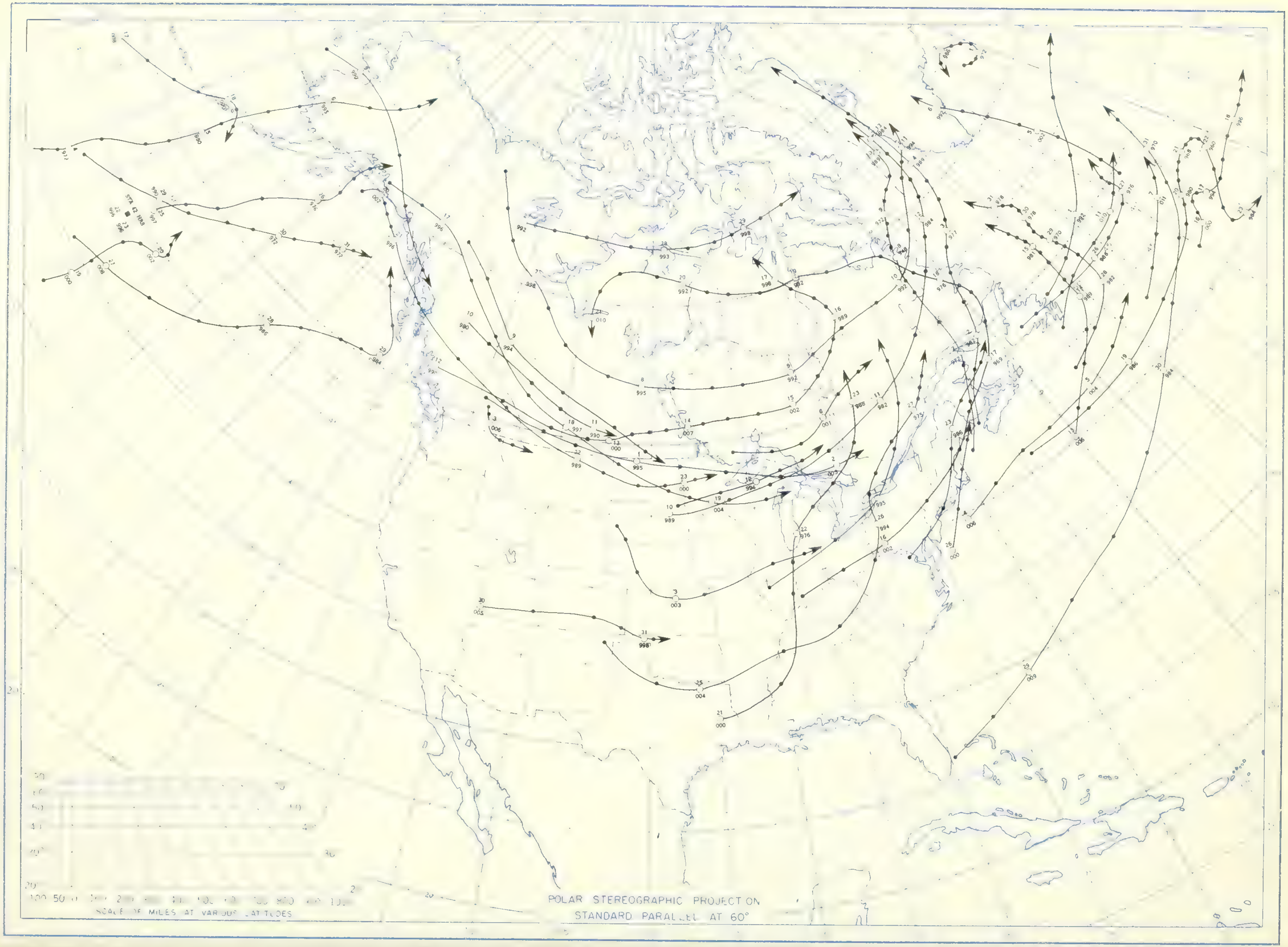
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$). Basic data for isolines are shown on chart. Further estimates are obtained from supplementary data for which limits in accuracy are [illegible]

Chart IX. Tracks of Centers of Anticyclones at Sea Level, March 1955.



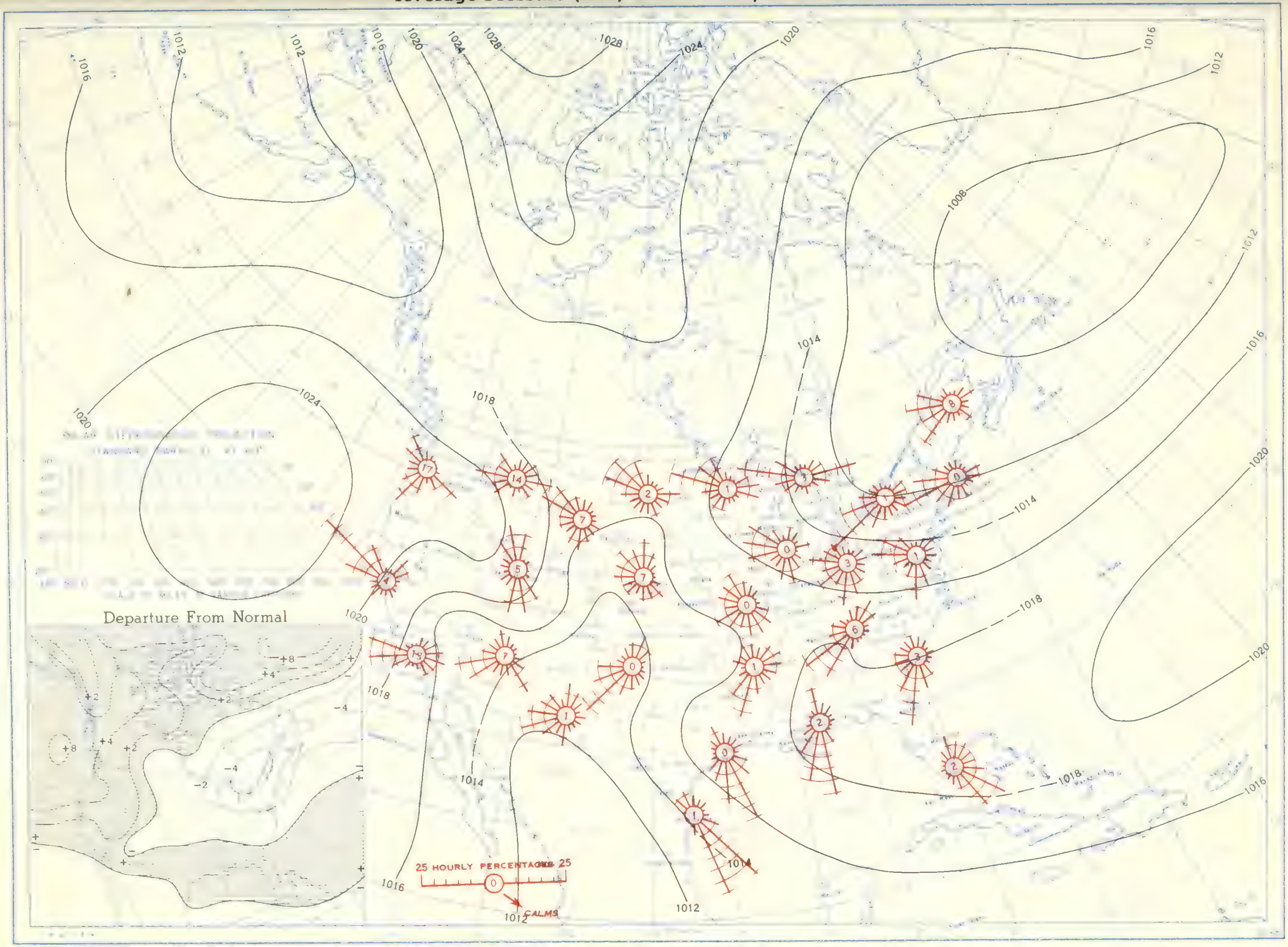
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, March 1955.


POLAR STEREOGRAPHIC PROJECTION
STANDARD PARALLEL AT 60°
SCALE OF MILES AT VARIOUS LATITUDES
STA 42 HR8

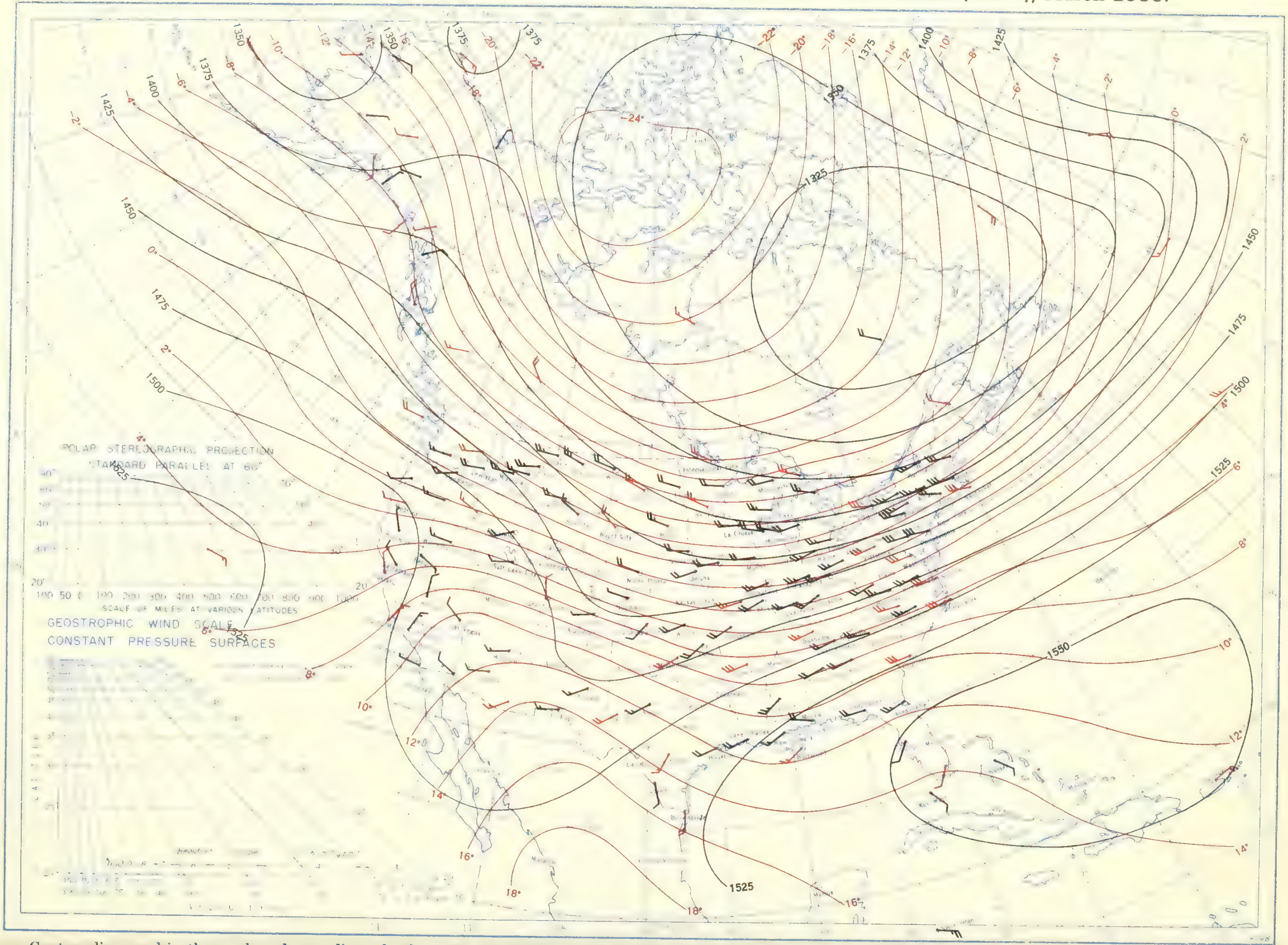
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols

Average Pressure (mb.) from Normal, March 1955.



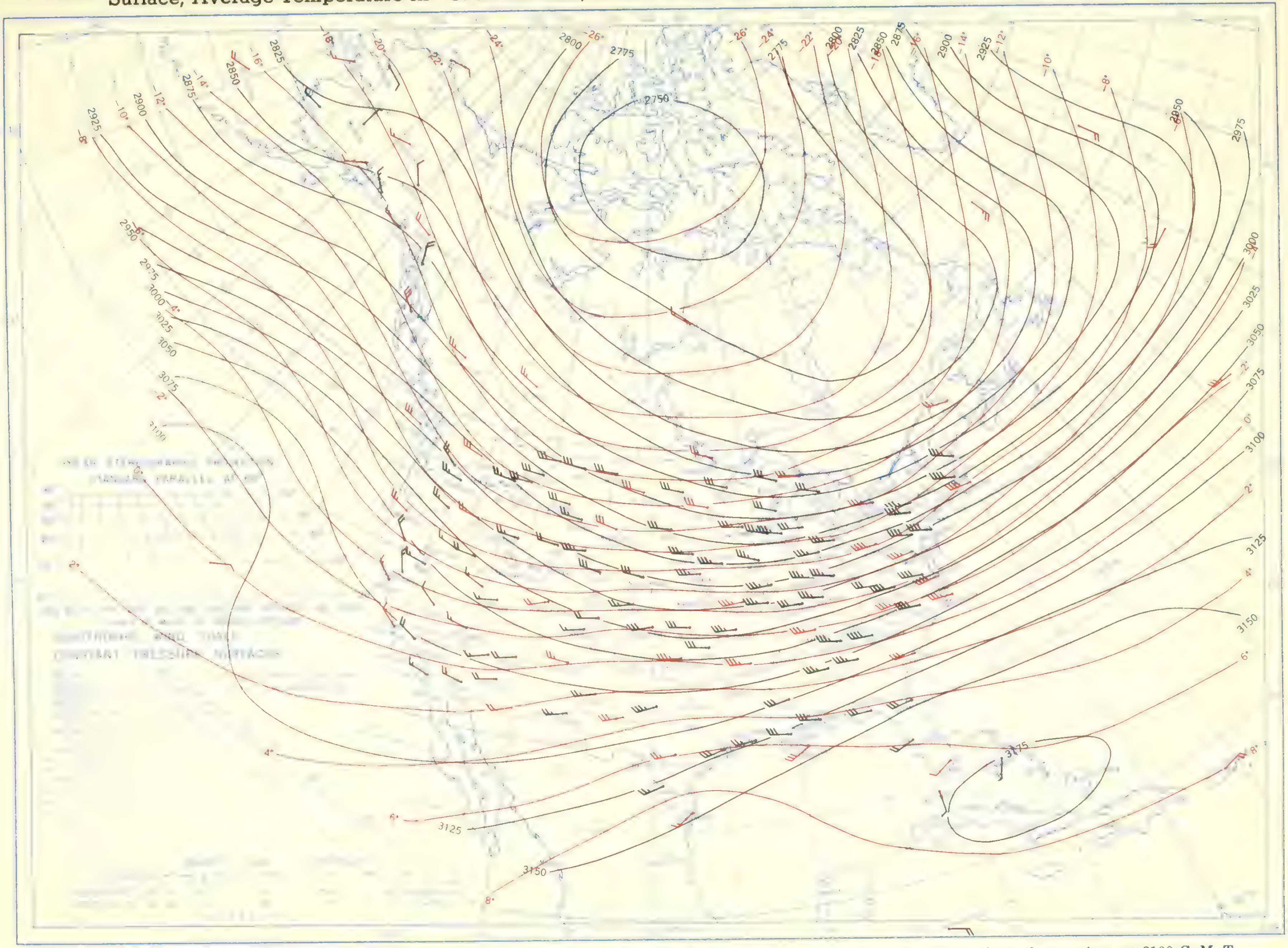
Average sea level pressures are obtained from the averages of the 7:30 a.m. and 7:30 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), March 1955.



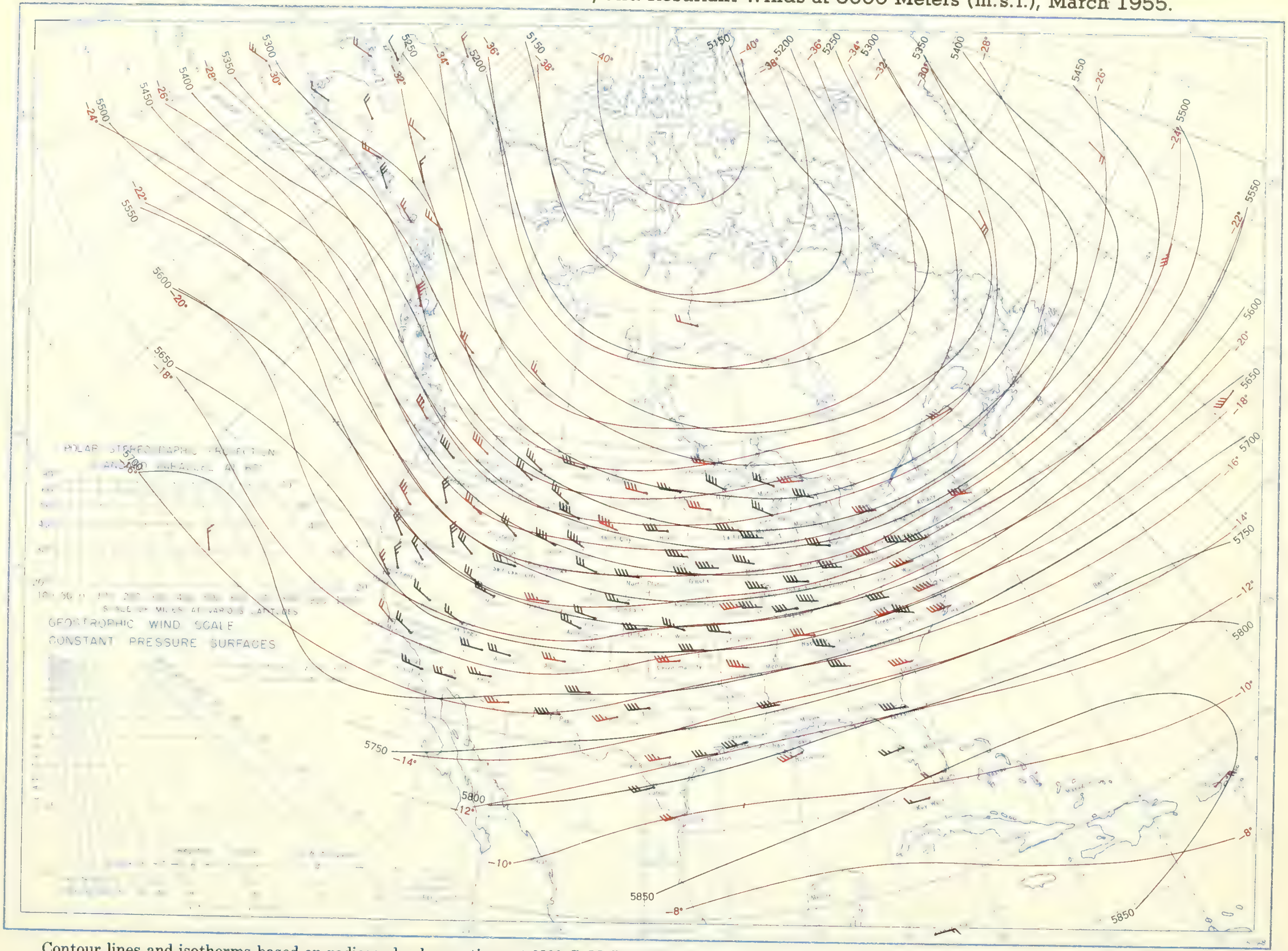
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;

Chart XIII. Average Dynamic Height in
Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), March 1955.



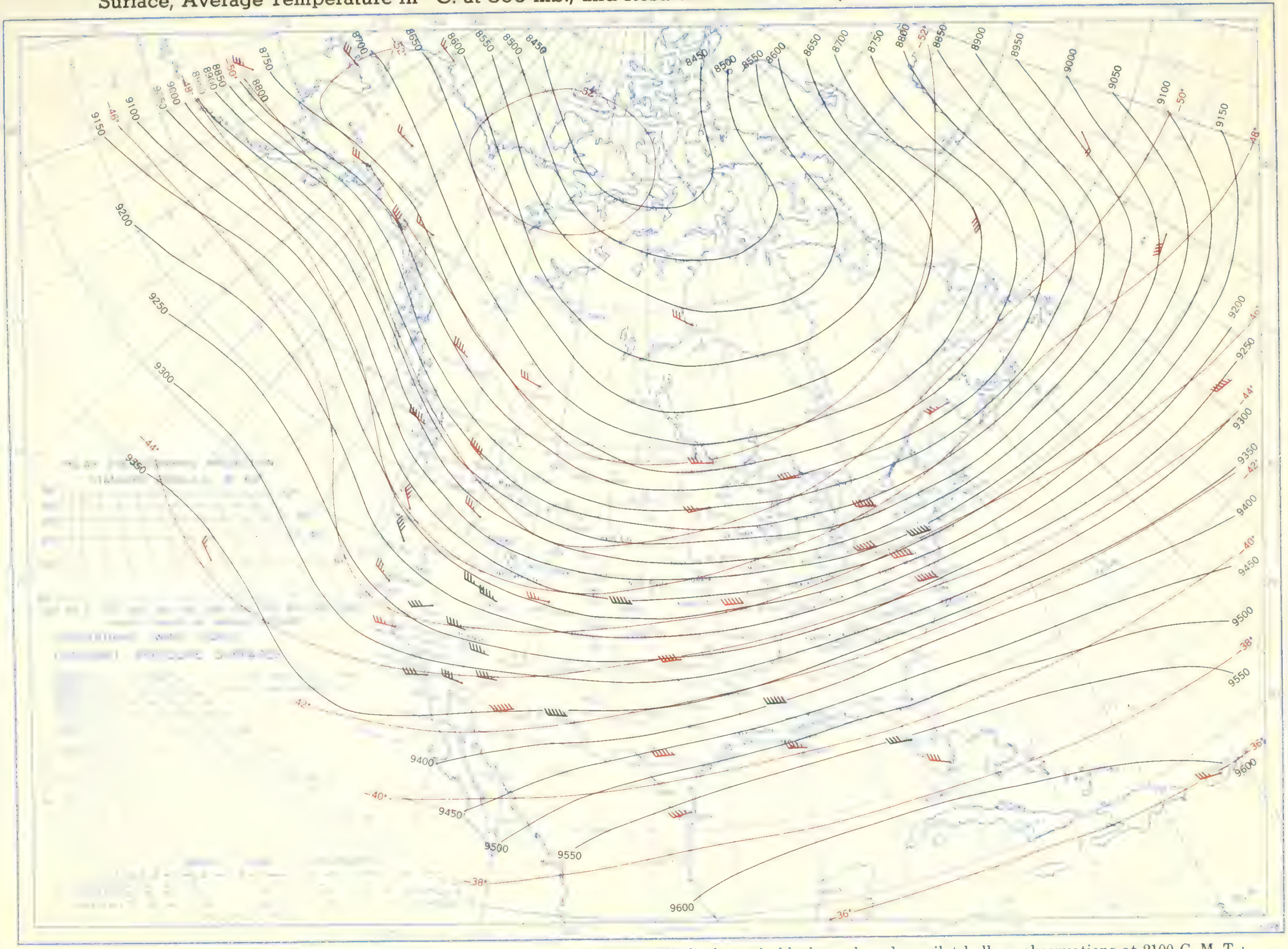
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), March 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T.

Chart XV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters), of
Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), March 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

APRIL 1955
Volume 6 No. 4

ASHEVILLE: 1955

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CHARTS I-XV

NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 6 No. 4

APRIL 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

April, like March, exhibited a great variety of extreme weather conditions. While the Pacific Northwest shivered through one of the coldest Aprils on record and frosts and freezes extended southward into central California and northern Arizona, the upper Mississippi Valley and Great Lakes region, in sharp contrast, enjoyed record or near-record, unseasonable warmth climaxed with occasional brief spells of summer heat. As record-breaking winds, ranging up to 85 m.p.h. in gusts, whipped up moderate to severe duststorms in the Great Plains and further diminished crop prospects and soil moisture supplies, heavy rains fell over the South causing a major flood in the Pearl River of Mississippi and alleviating the drought along the Gulf Coast. April also had record-late-season snowfall in the northern Rockies, near blizzard conditions as far south as northeastern New Mexico and the Texas Panhandle, and the season's heaviest snowfall in southern New England, as well as the usual quota of severe local storms in the Great Plains and Mississippi Valley. Of greater economic importance, perhaps, than all these features was the combination of generous rainfall and above-normal temperatures which furnished the basis for an excellent crop outlook in the eastern agricultural half of the Nation.

PRECIPITATION.--The month's heaviest and most intense precipitation occurred in the lower Mississippi Valley and south of the Ohio River where some of the highest monthly totals were: Simmesport, La., 12.87 inches; Merrill, Miss., 16.42; Memphis, Tenn., 12.86; and Mobile, Ala., 17.69 inches. During the passage of a cold front from eastern Texas on the 13th, Mobile, Ala., recorded 13.36 inches of rain, most of it in a 6-hour period. These heavy rains resulted in moderate to severe flooding in many streams in Louisiana, Mississippi, and Alabama, but relieved, temporarily at least, the extreme dry topsoil conditions which had developed along the Gulf Coast.

Generous rains also fell in the Pacific States, particularly during the latter half of the month when rain was recorded every day at some points in Oregon.

In a large area extending from Nevada and Arizona eastward into Kansas, Oklahoma, and western Texas precipitation was less than 50 percent of normal and numerous stations in these states reported no rain at all.

In some northern areas much of the month's precipitation fell in the form of snow. One of the most severe spring snowstorms of record blocked main highways and disrupted communications in north-central Wyoming and south-central Montana on the 2d, 3d, and 4th. At Sheridan, Wyo., near blizzard conditions continued for 43 hours on the 3d and 4th, and the 1-day snowfall on the 3d of 22.7 inches was well above the previous 24-hour record of 15.3 inches set in March 1933. The total fall of 42.3 inches of snow at Billings, Mont., was a new record for all months, and the 1-day fall of 23.7 inches on the 4th was greater than any monthly total except March 1935, and the depth of 35 inches at midnight on the 4th was the greatest depth ever recorded. Salt Lake City, Utah, on the edge of the storm, reported 12.8 inches of snow which alone was a record total fall for April, and 5 inches more fell on the 26th. Also on the 3d southern New England's heaviest snowstorm of the year deposited up to 20 inches locally. Near blizzard conditions occurred in southeastern Wyoming and the Nebraska Panhandle on the 11th and 12th and, snow was reported as far south as the Texas Panhandle on the 13th. This storm set a new record at Cheyenne, Wyo., for a 24-hour amount when 16.6 inches fell on the 11th and 12th.

TEMPERATURE.--East and west of the Continental Divide temperatures for the month averaged above and below normal respectively. In the far West, April was the fifth consecutive month of subnormal temperatures with anomalies ranging from 4° over most of the area to 8° in central Oregon. Frequent intrusions of cold Polar air masses brought frosts and freezes far southward on the 19th when Prescott, Ariz., recorded a record, late-season low of 24° and again on the 27th when Fresno, Calif., reported 31°, Medford, Oreg., 28°, and Red Bluff, Calif. 32°.

The month was warmer than normal in virtually all areas from the Great Plains eastward, with greatest anomalies of 8° over the upper Mississippi Valley and Great Lakes diminishing southward and eastward to about 2° along the Gulf and Atlantic Coasts. This was the warmest April on record in Michigan and the warmest since 1915 in Wisconsin and Minnesota. In northern Michigan snow which ranged up to 30 inches in depth at the beginning of the month had virtually all melted by the 10th, and sweet cherries were blooming in northwestern Lower Michigan at the end. Ice deteriorated rapidly in Lake Superior and completely disappeared by the 17th.

SEVERE STORMS.--The worst outbreak of severe, local storms during the month occurred in Texas on the 5th and 6th when numerous tornadoes, wind- and hailstorms were responsible for 1 death, 60 injuries, and property and crop losses totaling $4,500,000. The record April snowstorm in Wyoming from the 2d to the 5th caused livestock losses estimated at $1,000,000. On the 24th when a line squall crossed South Carolina, winds and heavy hail caused $1,260,000 damage to crops and $1,400,000 to property. During a period of severe thunderstorm activity on the lower east coast of Florida on the 29th hail damaged crops and property to the extent of $1,000,000. The heavy snowstorm accompanied by high winds with gusts up to 70 m.p.h. in southern New England on the 3d and 4th caused damage on Martha's Vineyard and Nantucket Islands estimated at $500,000 and considerable unestimated damage on the mainland. Severe duststorms were frequent in the Southwest and caused widespread damage to crops. Wind gusts of 70 to 80 m.p.h., were frequently reported. Albuquerque, N. Mex., reported that dust restricted visibility in that area for 62 hours during the month. These storms were probably most frequent and severe in Colorado where visibility was occasionally reduced to zero; on the 11th the wind at Pueblo attained a peak speed of 72 m.p.h., and visibility was zero from 10:53 a.m. to 2:00 p.m.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

APRIL 1955

Section	Temperature								Precipitation					
	Average	Departure from normal	Monthly extremes						Average	Departure from normal	Monthly extremes			
			Station	Highest	Date	Station	Lowest	Date			Station	Greatest	Station	Least
	°F	°F		°F			°F.		In.	In.		In.		In.
Alabama	66.6	3.0	Geneva	95	18	Valley Head 1N	28	1	7.26	2.71	Mobile WB Airport	17.69	Seale 6W	2.59
Arizona	55.5	-2.4	Gila Bend	97	19	2 Stations	5	4	.16	-.49	Groom Creek	1.61	59 Stations	.00
Arkansas	65.5	3.9	5 Stations	94	22+	Lead Hill	27	8	4.63	-.40	Beaty Lake	10.99	Fort Smith WB AP	.90
California	52.5	-4.5	Indio US Date Garden	96	11+	Twin Lakes	-7	27	2.29	.59	Cazadero	13.86	14 Stations	.00
Colorado	44.0	.1	Eads	93	18	Fraser	-16	5	.82	-.91	Wolf Creek Pass 4W	3.59	Genoa	.00
Connecticut	49.4	2.9	2 Stations	82	10+	Putnam	16	9	4.24	.48	Norfolk 2SW	7.19	Putnam	2.51
Delaware	55.8	3.0	3 Stations	82	19	Georgetown 5SW	27	5	2.81	-.72	Bridgeville 1NW	3.81	Selbyville	2.18
Florida	72.0	2.0	Avon Park	95	25	Jasper 9ESE	38	1	2.42	-.64	Blountstown 2SE	9.29	Dry Tortugas	.05
Georgia	67.3	3.2	Rome	95	18	Blairsville Exp. Sta.	25	1	4.90	1.08	Flintstone	9.87	Blackbeard Island	2.03
Idaho	39.8	-5.4	Aberdeen Exp. Sta.	84	30	Dixie	-5	5	2.01	.64	Council	5.60	Irwin 2S	.26
Illinois	59.2	6.7	East St. Louis Pk C	90	16	Chenoa	25	8	3.95	.40	Albion	7.73	Chicago WB AP	2.01
Indiana	57.7	6.5	Evansville	89	16+	Greensburg 3SW	21	8	3.74	.15	New Harmony	8.40	La Porte	1.69
Iowa	56.4	7.6	2 Stations	90	18+	Oakland 2E	22	7	3.49	.88	Wapello	6.59	Glenwood 6SE	1.77
Kansas	60.0	5.5	Ashland	96	26	2 Stations	19	7	1.97	-.58	Lindsborg 3NE	6.75	Kirwin	.10
Kentucky	60.6	4.3	Pikeville	92	18	3 Stations	23	8	3.66	-.28	Murray	8.10	Lancaster	1.58
Louisiana	69.7	2.4	Cheneyville	95	30	Logansport	36	8	6.41	1.60	Simmesport	12.87	Burwood WB	.96
Maine	42.1	1.1	Sanford 2NNW	76	15	2 Stations	15	2+	1.98	-1.16	2 Stations	2.90	Presque Isle	.78
Maryland	56.8	4.3	Waldorf Police Brks	87	19	Bittinger 2NW	22	8	2.96	-.54	Owings Ferry Landing	5.10	Ocean City	1.64
Massachusetts	47.6	2.1	New Bedford	80	11	Birch Hill Dam	15	9	3.96	.36	Sandwich	7.54	Charlton 2	2.31
Michigan	50.1	7.6	Marquette WB City	85	30	Chatham Exp. Fm	12	4	2.29	-.12	Greenville	3.99	Three Rivers	.67
Minnesota	50.2	7.9	5 Stations	83	28+	4 Stations	17	7	1.79	-.26	Worthington	3.82	2 Stations	.64
Mississippi	67.4	2.8	Hattiesburg	94	29	Houston 2NE	34	1	8.09	3.15	Merrill	16.42	Enterprise	3.60
Missouri	62.0	6.6	Ozark Beach	96	23	Hermitage	22	7	2.70	-1.33	Cape Girardeau Mo St	6.38	Lockwood	.44
Montana	41.3	-2.1	Pleyna	88	18	Summit	-7	5	1.86	.72	Crow Agency	5.22	Belfry 8SSW	.01
Nebraska	55.0	5.7	Cambridge	95	26	Arthur	11	7	1.26	-1.12	Raymond	4.33	Bloomington 2S	.00
Nevada	45.0	-4.2	Overton	90	25	Eureka	5	4	.44	-.34	Lamoille PH	3.10	8 Stations	.00
New Hampshire	44.8	2.7	Windham	78	10	Fabyan	5	9	2.45	-.68	Fitzwilliam 3SW	4.12	Gilmanton	1.77
New Jersey	53.3	3.3	Newton	90	11	Layton 3NW	20	9	2.59	-1.02	Paterson	3.95	Rahway	1.81
New Mexico	51.9	-.8	Jal	95	22+	2 Stations	-2	4	.45	-.32	Naravisa	7.25	36 Stations	.00
New York	48.9	4.9	3 Stations	84	10+	Speculator	6	9	2.63	-.39	Shrub Oak	5.30	Massena CAA Airport	1.01
North Carolina	62.6	3.9	2 Stations	94	20+	Celo 2S	17	1	3.64	.16	Altapass	10.06	Manteo	.72
North Dakota	48.1	6.8	Medora 4NNE	89	29	Medora 4NNE	15	6	1.47	.05	Keene 2S	3.14	Hankinson RR Sta.	.18
Ohio	56.5	6.5	3 Stations	89	18+	Mosquito Creek Dam	19	8	3.01	-.24	Catawba Island 1SW	5.30	Kenton 2W	1.55
Oklahoma	65.2	4.7	2 Stations	101	17+	Boise City	22	7	1.76	-1.76	Hee Mountain Tower	7.25	Hollis	.18
Oregon	41.5	-6.4	5 Stations	78	6+	Fish Lake	-6	27	3.59	1.53	Valsetz	14.33	Redmond	.56
Pennsylvania	53.3	4.6	Madera	87	12	2 Stations	14	8	3.14	-.35	Altoona Horseshoe Curve	5.76	Lawrenceville 2S	1.43
Rhode Island	47.5	1.7	2 Stations	79	11	Kingston	20	9	3.16	-.66	Austin	3.79	Kingston	2.60
South Carolina	65.6	3.1	do	93	20+	Chester 2SW	26	1	4.61	1.36	McColl	8.13	Hilton Head	2.20
South Dakota	52.6	6.6	Wagner	91	19	Deerfield Dam	1	6	1.39	-.68	Lead	6.37	Britton	.23
Tennessee	62.5	3.7	2 Stations	92	16+	Gatlinburg 2SW	26	8	5.85	1.51	Memphis Substa.	12.86	Cherokee Dam	2.19
Texas	68.9	3.7	Rio Grande City	109	24	3 Stations	22	2+	1.48	-1.02	Kirbyville	9.13	Numerous	.00
Utah	44.0	-3.0	Bluff	83	15	Soldier Summit	-8	5	.61	-.63	Alta	7.89	13 Stations	.00
Vermont	44.7	3.0	Saint Johnsburg	78	30	West Burke	9	9	2.71	-.26	Mays Mill	4.68	Canaan	1.45
Virginia	58.7	4.0	Halifax	91	20	Monterey	20	8	3.32	.04	Meadows of Dan 5SW	8.13	Monterey	1.37
Washington	42.9	-5.7	2 Stations	79	7+	Bumping Lake	10	27	3.53	1.37	Quinault RS	15.57	3 Stations	.37
West Virginia	56.3	4.3	3 Stations	91	19+	2 Stations	17	1+	3.05	-.46	Hastings	5.28	Spruce Knob	1.34
Wisconsin	50.5	7.5	Gurney	84	10	do	12	7	2.90	.43	Portage	6.07	Port Wing	.77
Wyoming	40.4	-.5	Shawnee	90	26	Farson	-17	12	1.01	-.57	Dayton	5.48	Heart Mountain	.01

+ And also on a later date or dates.

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

Table 2

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	°F	°F	°F	°F	°F		°F				°F	%	In	In	In			In	In	M p h		M p h			0–3	4–7	8–10	0-10	%
ALABAMA																																
Birmingham	[illegible]	989.7	1014.8	79	54	66.3	4.4	[illegible]	[illegible]	[illegible]	3	2	0	51	[illegible]	6.42	1.77	1.57	10	7	.0	0	10.1	S	42	SE	12	10	10	10	5.6	64
Mobile	211	1006.9	1015.0	80	59	[illegible]	3.0	[illegible]	[illegible]	41	3+	0	0	59	75	17.69	12.59	13.36	9	5	T	0	10.5	SSE				10	9	11	5.6	
Montgomery	198	1007.5	1015.1	80	56	[illegible]	3.5	90	19+	41	1	2	0	55	66	6.41	1.60	3.33	11	9	.0	0	7.7	SSW	31	W	25	9	[illegible]	12	5.7	60
ARIZONA																																
Flagstaff	6993	---	---	56	24	40.1	2.1	67	26	[illegible]	4	0	25			.51	[illegible]	.31	3	0	5	T		-				20	4	6	3.6	
Phoenix	1114	972.2	1011.1	82	52	66.7	.4	90	4	39	4	[illegible]	0	31	27	T	[illegible]	T	0	0	0	0	6.4	W	*29	WNW	11	20	4	6	2.9	96
Prescott	5014	844.6	1012.6	66	33	49.8	3.1	77	25	[illegible]	4	0	16			[illegible]	[illegible]	.05	3	0	1	T	11.6	SSW	56	SW	2	21	3	6	2.9	92
Tucson	2558	923.1	1010.9	81	48	[illegible]	-.6	[illegible]	26	37	4+		0	15	17	T	[illegible]	T	0	0	0	0	[illegible]	SE	36	SW	22	19	5	6	3.2	93
Winslow	4880	848.6	1010.7	69	34	[illegible]	2.6	[illegible]	28	19	1		13	[illegible]	22	[illegible]	[illegible]	.20	1	0	0	0	12.1	SW	*50	WSW	2	21	5	4	2.6	
Yuma	199	1006.4	1011.5	83	52	[illegible]	1.1	97	[illegible]	42	1	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	.06	0	0	0	0	9.3	WNW	33	S	29	[illegible]	3	4	1.9	93
ARKANSAS																																
Fort Smith	458	994.9	1010.8	76	55	66.2	3.6	92	[illegible]	38	6	2	0	51	[illegible]	[illegible]	[illegible]	.30	10	9	T	0	[illegible]	ENE	42	SE	17	10	6	14	5.7	64
Little Rock	257	999.7	1012.5	78	55	[illegible]	1.5	92	22	44	7	1	0	53	65	3.70	-.16	1.21	8	6	1.0	T	10.6	S	41	E	12	10	8	12	5.8	66
Texarkana	[illegible]	999.3		[illegible]	57	[illegible]	[illegible]	[illegible]	30	41	8	0	0			4.07	1.23	1.78	8	8	1.0	T		---								
CALIFORNIA																																
Bakersfield	489	998.6	1017.0	72	45	58.7	[illegible]	[illegible]	[illegible]	37	3	0	0	[illegible]	47	.80	.05	.36	7	0	[illegible]	0	7.6	NW	*32	NNW	1	15	11	4	3.7	-
Bishop	4108	870.3	1011.2	63	[illegible]	[illegible]	[illegible]	79	9+	20	19	0	20			.11	.16	.04	4	0	T	0	---	---	-		-	19	5	6	3.9	-
Blue Canyon	5280	836.8	1015.9	44	[illegible]	36.6	[illegible]	60	8+	17	2	[illegible]	[illegible]			[illegible]	4.78	3.77	14	0	81.2	29	---	---			-	7	7	16	6.9	
Burbank	699	988.8	1015.0	72	48	59.7	[illegible]	85	12	[illegible]	20+	0	[illegible]	36	[illegible]	2.48	1.27	1.72	4	1	T	T	8.6	S	*25	N	10	18	4	8	3.5	--
Eureka CO	43	1016.3	1018.6	53	41	[illegible]	[illegible]	[illegible]	[illegible]	34	27	0	[illegible]			5.56	2.68	2.38	17	0	T	0	7.6	-	38	NW	25	6	4	20	7.3	58
Fresno	331	1004.7	1016.6	68	42	[illegible]	6.7	81	9	[illegible]	3+	[illegible]	0	37	[illegible]	1.47	.51	.51	8	1	T	T	7.3	NW	36	NW	1	15	10	5	3.9	76
Los Angeles CO	312	-----	--- --	72	51	61.3	[illegible]	85	12	47	5+	[illegible]	[illegible]	[illegible]	51	2.07	.90	1.29	4	1	.0	0	8.1		40	NW	2	19	5	[illegible]	3.4	82
Los Angeles	99	1011.5	1015.2	68	50	[illegible]	[illegible]	[illegible]	12	44	[illegible]	[illegible]	0	[illegible]	[illegible]	2.20	1.24	1.42	4	1	.0	0	10.2	#	%48	N	2	18	6	6	3.2	-
Mt. Shasta CO	3544	890.3	1015.7	51	29	[illegible]	[illegible]	70	[illegible]	14	27	0	25		-	3.46	2.40	1.93	[illegible]	0	40.1	16						5	11	14	6.9	
Oakland	3	1018.3	1018.6	59	43	51.0	4.6	71	6	35	[illegible]	0	[illegible]	[illegible]	[illegible]	1.46	-.06	.40	11	0	T	T	9.9	W	*55	WSW	25	12	[illegible]	[illegible]	5.1	
Red Bluff	341	1003.7	1016.6	64	42	52.9	7.1	80	8	31	2	[illegible]	2	34	[illegible]	1.68	-.11	.70	11	2	T	T	11.1	SSE	[illegible]	S	25	6	10	14	6.5	61
Sacramento	17	1015.9	1017.0	66	41	53.6	-4.6	80	8	34	2+	0	0	38	[illegible]	2.31	.93	.79	10	1	T	0	10.5	SW	45	SW	25	10	7	13	5.5	58
Sandberg	4517	861.2	1014.6	56	36	46.2	4.3	69	8	25	2	0	[illegible]	-		2.18	1.44	1.70	4	0	15.2	[illegible]					-	14	3	6	4.3	-
San Diego	[illegible]	1012.2	1015.6	68	52	59.6	[illegible]	82	12	[illegible]	5+	0	0	46	[illegible]	.90	.07	.74	5	0	0	0	7.6	WNW	29	S	30	18	9	3	3.1	82
San Francisco CO	52	- -	--	57	47	52.3	[illegible]	65	6	42	18	0	0			1.49	.00	.55	8	0	.0	0	10.6	-	34	SW	25	12	11	7	4.6	70
San Francisco	1	1017.3	1018.3	60	44	52.1	[illegible]	71	6	36	27	[illegible]		42	71	1.54	.25	.76	8	0	T	0	14.6	WNW	46	SSE	25	12	7	11	5.3	-
Santa Maria	[illegible]	1008.8	1017.6	61	42	51.5	[illegible]	74	[illegible]	[illegible]	6	0	0	39	66	2.25	1.05	1.05	8	0	0	0	8.7	WNW	*28	NW	2	11	[illegible]	5	4.3	--
COLORADO																																
Alamosa	7538	768.0	1013.9	56	23	39.3	2.4	72	29	2	4	0	26	--		.22	-.32	.14	4	0	5.8	4	-					15	7	8	4.4	-
Colorado Springs	6173	804.9	1009.4	63	32	47.4	.9	79	25	20	5	0	16	13	32	.33	-1.07	.25	4	0	3.4	3	14.5	NNW	*45	N	12	14	10	6	4.1	--
Denver	5292	831.7	1008.0	65	35	50.1	2.6	83	26	23	5+	0	10	12	19	.48	-1.57	.48	2	0	4.9	5	12.9	S	47	NW	19	10	11	9	5.3	75
Grand Junction	4849	856.1	1011.7	61	36	[illegible]	-2.9	75	25	21	1	0	12	20	37	1.13	.38	.72	4	2	5.5	4	12.7	ESE	59	W	2	11	9	10	5.5	72
Pueblo	4639	851.0	1008.4	69	36	52.4	2.6	86	30	24	1	0	12	18	31	.02	-1.22	.02	1	0	2	T	12.4	WNW	72	N	12	12	10	8	4.6	70
CONNECTICUT																																
Bridgeport	7	1013.4	-- ---	59	42	50.3	4.0	81	10	30	9	0	2	-	-	3.96	.47	1.36	14	1	1.1	1	- -	--	-	---	--	8	3	19	6.9	--
Hartford	169	1008.1	1014.1	59	40	49.8	1.8	79	11	31	9+	0	6	38	69	4.68	1.12	1.08	15	2	3.6	4	13.5	S	36	NW	8	6	6	18	7.4	39
New Haven	6	1013.0	--	58	40	49.1	3.0	78	10	33	7+	0	0		-	4.08	.19	1.18	16	[illegible]	1.0	[illegible]	8.5	-	28	NE	29	6	5	19	7.5	45
DELAWARE																																
Wilmington	73	1010.5	1013.9	65	45	54.8	3.0	81	11	32	8	0	[illegible]	43	70	2.55	-1.09	.89	14	4	0	0	9.5	S	-	-		6	7	17	6.9	--
DIST. OF COLUMBIA																																
Washington CO	72	-----	----	69	49	58.7	4.0	83	22	37	8	0	0	-	--	2.74	-.46	1.05	11	1	0	0	7.8	- -	28	NW	7		-			
Wash. Nat'l AP	14	1009.9	1014.4	68	48	58.2	3.8	82	[illegible]	35	8	0	0	45	65	2.57	-.49	.97	13	4	0	0	10.9	S	35	NW	7	7	6	17	6.8	50
FLORIDA																																
Apalachicola CO	13	1014.1	1015.4	77	64	70.5	3.0	88	29	54	1	0	0	-		.46	-3.82	.23	3	2	0	0	8.8	--	26	E	10+	14	7	9	4.4	75
Daytona Beach	31	1014.8	1016.4	81	59	70.1	1.1	90	25	46	1	1	0	60	75	1.78	-1.15	1.13	6	3	0	0	11.0	E	*24	SE	13+	13	9	8	4.8	-
Fort Myers	15	1015.4	-	85	61	73.2	2	90	30	48	4	1	0	-		.97	-1.40	.93	3	3	0	0	9.2	--	*35	SW	2	15	10	5	4.1	-
Jacksonville CO	18	-	-	81	62	71.6	2.5	90	25	50	1	1	0	--		1.79	-1.25	1.44	6		0	0	---	-	-	--	-	--			--	--
Jacksonville	24	1015.2	1016.2	83	61	72.0	3.6	93	23	45	1	4	0	58	69	1.50	-1.84	.93	5	3	[illegible]	0	9.8	SW	31	SE	13	11	11	8	5.0	73
Key West CO	9	1014.4	1015.2	85	72	78.3	1.3	90	26	69	29+	1	0	--	-	.35	-2.05	.17	3	1	[illegible]	0	7.9	---	19	E	10	14	14	2	3.8	93
Lakeland CO	214	------	--	83	63	72.8	1.2	89	30	52	4	0	0	-	-	2.61	-.26	1.93	4	3	[illegible]	0	7.4	- -				11	11	8	4.6	71
Miami CO	8	- -	-----	80	68	74.1	0	87	26	58	4	0	0	-		1.95	-1.49	1.34	8	2	0	0	12.1	--	*45	S	16	16	12	2	3.8	84
Miami	8	1014.7	1015.7	84	67	75.6	7	89	26	58	4	0	0	64	71	1.36	2.63	.83	6	[illegible]	0	0	11.2	ESE	35	WSW	26	8	17	5	5.0	-
Miami Beach	9	------	-- -	81	71	75.7	3	89	26	62	29+	0	0	--		2.61	.00	1.21	6		0	0						14	6	10		
Orlando	106	1012.1	1016.4	84	61	72.3	7	89	29+	50	1	0	0	60	72	1.36	-1.60	.63	6	[illegible]	[illegible]	0	8.8	S	*25	S	14	16	7	7	4.5	-
Pensacola CO	13	1013.0		77	63	70.2	3.2	88	29	53	3	0	0	-	-	6.18	1.28	4.42	6	[illegible]		0			27	W	2					64
Tallahassee	64	1012.9	1015.5	82	58	69.8	2.6	89	29	44	1	0	0	57	69	[illegible]	.82	1.65	[illegible]	[illegible]			6.6	S				11	9	10	5.2	
Tampa	19	1014.9	1016.3	82	62	72.0	5	89	30	51	4	0	0	61	74	[illegible]	-1.28	.92	[illegible]	[illegible]		0	[illegible]	F	*22	WNW	26	12	9	9	4.5	74
West Palm Beach	15	1014.7	1015.6	83	65	74.2	4	90	26+	52	4	2	0	64	73	1.97	-2.16	1.23	5	4	[illegible]	0	12.6	SE	*35	W	26	[illegible]	8	6	4.5	
GEORGIA																																
Athens	798	987.4	- -	78	53	65.8	[illegible]	[illegible]	17	[illegible]	8	[illegible]	0	-		2.27	-2.32	.79	9	6	0	0				-		11	9	10	5.2	
Atlanta	977	973.6	1014.7	77	55	65.9	[illegible]	87	17	42	8	[illegible]	0	50	62	4.31	.11	1.35	10	5	T	[illegible]	9.9	NW	50	SW	24	9	7	14	5.6	69
Augusta	143	1008.2	1014.9	79	53	65.9	[illegible]	89	23	34	1	0	0	54	71	6.93	2.55	[illegible]	10	8	[illegible]	0	7.0	SE	*30	WSW	24	10	8	12	5.7	
Columbus	385	1001.2	1015.2	81	54	67.1	3.7	91	17	37	1	2	0	-		4.34	.11	2.27	9	6	T	0						12	5	13	5.3	
Macon	356	1001.0	1014.5	82	56	69.0	3.3	92	17	39	1	4	0	53	62	6.51	2.70	3.65	10	8	T	T	8.2	WNW	36	S	24	13	7	10	5.0	68
Rome	637	991.7	1014.8	78	50	64.0	3.5	91	18	32	1	[illegible]	[illegible]		-	6.16	1.48	1.58	11	8	T	0						9	9	12	5.7	-
Savannah	48	1013.1	1015.6	79	56	67.6	1.8	91	23	38	1	[illegible]	0	59	77	4.16	1.69	1.93	6	7	.0	0	10.4	SSE	28	W	25	10	9	11	5.5	74
IDAHO																																
Boise	2842	917.0	1013.8	55	33	44.0	-5.9	74	[illegible]	21	3	0	14	31	64	3.04	1.94	.68	16	0	4.4	2	10.3	SE	42	SW	25	4	7	19	7.4	54
Idaho Falls 46W CO	4933	843.9	1012.9	51	25	37.8	-4.7	69	30	18	6+	0	29			.49	.26	.25	8	0	3.8	3	11.0		a32	WSW	18+					
Idaho Falls 43NW CO	4780	--		51	24	37.5	[illegible]	69	30	15	7+	0	29			.39	.20	.22	7				13.5		a37	NNW	2+					
Lewiston	1413	962.4	1014.2	56	34	45.1	6.3	74	7	24	5	0	11	-		1.28	.14	[illegible]	12	[illegible]	T	T						3	4	23	8.1	
Pocatello	4444	858.8	1012.9	52	31	41.1	-5.2	72	[illegible]	19	6	0	20	26	59	1.70	.38	.59	[illegible]	1	12.7	9	13.7	SW	49	W	19	5	6	17	7.3	47
ILLINOIS																																
Cairo CO	314	999.7	-	75	56	65.1	5.1	86	16	42	[illegible]	0	0			4.60	.64	1.65	12	5	T	0	9.4		40	S	22	7	12	11	6.0	74
Chicago	610	989.8	1012.9	68	46	57.0	8.9	83	18	34	8	0	0	40	59	2.01	.81	[illegible]	12	4	0	0	11.8	E	34	W	5	13	6	11	5.3	65
Moline	589	990.2	1012.5	68	46	57.0	7.1	81	18	31	7	0	1	43	64	5.33	2.32	1.74	[illegible]	7	T	T	13.5	ESE	47	SE	19	12	7	11	5.0	65
Peoria	654	989.8	1012.0	69	48	58.7	8.2	79	16+	32	7	0	1	44	62	3.69	.25	1.20	[illegible]	7	[illegible]	0	11.3		35	W	5	11	8	11	5.1	71
Springfield	587	990.2	1012.2	70	49	59.8	8.1	82	18	32	8	0	[illegible]	47	67	3.37	-.05	1.15	[illegible]	7	[illegible]	0	[illegible]	S	37	SW	23	11	8	11	5.4	69
INDIANA																																
Evansville	383	997.6	1013.2	73	49	60.9	3.8	86	18	30	8	0	1	48	69	7.99	[illegible]	3.95	13	[illegible]	T	T	9.8	SE	36	S	12	9	6	15	5.9	62
Fort Wayne	801	983.1	1013.5	67	45	56.0	8.2	79	18	27	8	0	[illegible]	43	66	[illegible]	[illegible]	.97	10	[illegible]	T	[illegible]	13.4	SW	42	S	18	10	8	12	5.7	61
Indianapolis	793	985.1	1014.1	67	47	57.1	6.3	79	16+	[illegible]	8	0	2	45	66	[illegible]	.54	.87	11	[illegible]	T	0	13.7	SW	54	SW	12	10	6	14	5.9	67
South Bend	768	985.4	1013.5	66	42	[illegible]	6.7	79	18	28	8	0	3	42	68	[illegible]	1.17	.81	16	5	T	0	11.4	NNW	*27	ESE	4	13	6	11	5.2	-

See footnotes at end of table

Table 2 -Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F or above	No. of days: Min. 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet, Hail: Total	Snow, Sleet, Hail: Max. depth on ground	Average hourly speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb	°F	°F.	°F	°F	°F		°F				°F.	%	In.	In.	In.			In.	In.	M p. h.		M p. h.			0–3	4–7	8–10	0–10	%
IOWA																																
Burlington	694	986.5	1013.5	69	46	57.8	6.8	80	18	28	7	0	1	44	64	3.84	0.41	1.26	7	6	T	T	11.5	SE	54	SW	23	13	7	10	4.9	7
Des Moines	948	980.4	1011.2	69	46	57.5	7.1	86	18	29	7	0	1	40	59	2.63	.18	1.12	9	5	T	T	17.4	SE	42	SW	19+	14	7	9	4.9	7
Dubuque	1065	972.9	1012.3	64	43	53.[illegible]	6.7	79	18	29	7	0	2	40	62	4.34	1.65	2.47	9	4	T	T	--	---	--	--	--	11	8	11	5.3	--
Sioux City	1094	968.5	1009.5	72	44	58.0	6.6	88	19	29	7	0	1	39	54	2.54	.40	1.21	6	4	T	T	17.3	SSE	66	S	3	13	10	7	4.5	7
KANSAS																																
Concordia CO	1375	960.0	- -	73	48	60.2	6.2	89	19	31	7	0	1	-	49	.88	-1.38	.64	4	6	T	T	9.6	- -	34	S	3	16	5	9	4.4	71
Dodge City	2594	921.8	1008.1	73	45	59.0	5.2	93	26	32	4	1	1	32	44	.79	-1.47	.50	4	1	T	T	18.2	SSE	70	N	23	14	10	6	4.4	77
Goodland	3645	882.8	1010.2	68	36	52.0	4.8	88	26	21	7	0	8	26	46	1.01	.80	.65	7	2	T	0	15.3	SSE	*43	WSW	19	10	11	9	5.2	--
Topeka	879	974.9	1010.5	75	48	61.6	7.1	87	15+	30	7	0	2	43	55	2.55	-.95	1.04	7	4	T	0	13.0	S	42	S	3+	13	8	9	4.8	78
Wichita	1321	961.1	1009.0	76	50	62.5	6.3	92	15	31	7	2	1	42	53	.72	2.80	.28	6	2	T	T	15.9	S	42	S	27	12	8	10	5.3	75
KENTUCKY																																
Lexington	978	978.5	1014.3	70	48	59.0	6.1	86	18	27	8	0	2	46	65	1.71	-2.05	.63	10	7	.0	0	12.4	SSW	--	---	--	7	10	13	6.1	--
Louisville	485	994.4	1013.7	73	50	61.8	5.8	87	18	30	8	0	1	48	65	4.40	.39	1.76	11	8	T	T	10.5	SE	40	SW	12	7	11	12	5.7	60
LOUISIANA																																
Baton Rouge	64	1010.8	1013.5	81	60	70.5	3.7	91	29	47	3	2	0	59	72	8.35	3.85	4.65	7	8	0	0	9.0	SE	--	---	--	8	11	11	5.8	--
Lake Charles	12	1012.2	1013.2	79	62	70.6	2.6	90	29+	52	3	2	0	61	76	6.43	2.16	2.48	6	5	T	0	9.8	SE	*24	S	23	6	12	12	6.6	--
New Orleans CO	9	1012.5	--	81	64	72.5	2.7	90	29	51	8	1	0	-	-	6.63	1.18	2.33	7	5	T	0	6.9	---	26	SE	12	7	9	14	6.1	61
New Orleans	3	1012.5	1014.2	81	61	71.4	3.1	89	6+	48	3	0	0	62	76	4.81	.59	1.99	6	6	.0	0	9.9	S	*29	NNE	9+	7	14	9	5.6	--
Shreveport	252	1003.1	1012.5	80	59	69.3	2.5	91	30	45	2	2	0	58	72	4.78	.19	2.57	8	5	.0	0	11.2	S	--	---	--	8	5	17	6.6	58
MAINE																																
Caribou	624	991.3	1015.0	46	29	37.6	2.9	66	29	17	2	0	21	28	70	.86	-1.77	.55	5	0	T	34	10.0	NW	*30	NW	11	7	9	14	6.4	--
Portland	61	1010.2	1014.3	53	34	43.7	1.8	73	10	20	9	0	13	34	71	2.50	1.25	.80	13	0	T	T	11.4	NNE	41	N	4	7	3	20	7.1	48
MARYLAND																																
Baltimore CO	14	--	-	68	50	58.7	4.4	81	22+	34	8	0	0		-	2.88	-.84	.85	12	-	---	-	----	---	-	---	--	-	--	--	---	--
Baltimore	146	1007.3	1014.1	66	46	55.9	3.5	80	10	32	8	0	1	44	67	2.34	-1.38	.66	14	1	.0	0	12.9	WNW	53	SW	19	8	7	15	6.7	51
Frederick	294	--- --	- ---	66	44	55.0	2.1	80	23+	27	5	0	2	-		2.15	-1.35	.50	10	--	0	0	--	---	-	---	--	--	--	--	---	--
MASSACHUSETTS																																
Blue Hill Obs.	629	989.6	1013.5	55	39	45.4	1.7	75	11	25	9	0	3	-	--	3.84	-.15	1.29	17	2	.8	T	17.2	---	41	WNW	10	7	5	18	7.1	36
Boston	15	1008.8	1013.4	56	42	49.2	2.0	78	11	33	9+	0	0	37	40	4.12	.66	1.46	13	2	.4	T	16.5	NE	46	NE	4	8	4	18	7.2	49
Nantucket	43	1012.4	1013.0	49	38	43.7	1	69	11	30	3	0	3	39	86	4.69	1.24	2.61	14	2	9.5	5	17.8	NNE	47	N	4	5	4	21	7.7	36
Pittsfield	1153	972.0	1014.9	56	37	46.3	4.3	73	30	24	9+	0	7	--	--	3.97	.36	1.08	16	1	15.8	16	----	---	--	---	--	--	--	--	---	--
MICHIGAN																																
Alpena CO	587	991.2	------	54	38	46.1	6.5	77	9	28	7	0	7		--	3.17	1.02	1.56	11	3	T	T	11.1	---	43	SE	18	10	6	14	5.9	54
Detroit	619	987.1	1014.1	65	44	54.5	8.1	79	10	30	7	0	2	40	63	2.00	-.91	.84	9	3	T	T	10.9	SE	35	NW	19	11	10	9	5.2	66
Detroit (Willow Run)	722	984.8	1013.5	66	44	55.0	8.4	79	10	29	7	0	2	40	63	2.53	-.41	1.02	9	5	T	0	12.4	WSW	*33	ESE	11	11	7	12	5.4	--
East Lansing CO	856	-- -		66	43	54.5	9.2	78	10	29	7	0	2	-	-	1.56	-1.27	.69	10	2	T	0	6.7	---	23	W	18	--	--	--	---	78
Escanaba CO	594	990.9	--- --	54	37	45.5	7.3	75	9	28	4	0	5	--	--	2.29	.19	.99	7	3	T	T	10.2	---	34	NE	24+	10	6	14	6.1	52
Grand Rapids	681	987.8	1013.2	65	41	52.8	8.0	76	16	30	4+	0	5	40	65	1.96	.94	.83	9	3	T	T	11.6	W	38	W	18	13	4	13	5.2	66
Marquette CO	677	986.1	--	55	39	46.8	8.1	85	30	27	4	0	5	-	64	2.53	.02	1.37	8	3	T	10	8.1	---	30	SW	21	6	11	13	6.7	54
Muskegon	627	989.8	1013.3	62	41	51.3	7.7	74	12	28	7	0	4	39	65	2.94	.60	1.25	9	4	T	0	----	---	--	---	--	13	5	12	5.2	--
Sault Ste. Marie	721	991.5	1014.9	54	35	44.4	7.6	73	30	23	7	0	11	34	71	2.27	.32	1.24	11	0	T	8	9.4	E	32	E	18	9	8	13	6.2	56
MINNESOTA																																
Duluth	1409	970.9	1012.5	56	36	45.7	8.9	79	10	20	7	0	9	33	69	1.48	-1.02	.67	11	1	5.0	9	15.6	ENE	42	E	4	7	9	14	6.5	57
Intern'l Falls	1179	968.2	1012.0	58	34	46.4	9.2	79	27+	17	7	0	15	33	65	1.65	-.08	.54	10	2	.5	12	11.2	---	--	---	--	4	12	14	6.9	--
Minneapolis	830	978.3	1011.9	65	43	53.9	7.9	80	27+	29	7	0	1	38	59	.92	-.99	.38	5	2	T	T	14.8	ESE	*48	WSW	20	12	10	8	5.0	65
Rochester	1017	974.6	1011.9	63	40	51.7	6.7	77	10	26	7	0	4	38	64	2.81	.50	1.15	6	1	T	0	10.8	SE	--	---	--	13	6	11	5.0	--
St Cloud	1034	972.9	1011.2	64	38	50.8	7.9	82	30	24	7	0	6	37	65	1.17	-.79	.73	8	4	T	0	11.5	ESE	--	---	--	8	8	14	5.6	--
MISSISSIPPI																																
Jackson	315	1002.0	1014.0	80	57	68.6	3.7	89	28+	44	3	0	0	55	67	7.16	2.34	3.77	9	9	.0	0	9.4	S	48	N	21	8	9	13	5.7	68
Meridian	294	1000.8	-	81	54	67.5	3.2	91	22	41	1	4	0	-	-	5.01	-.45	2.04	8	6	.0	0	----	---	--	---	--	10	10	10	5.1	--
Vicksburg CO	234	1004.4		79	60	69.7	3.9	89	29+	51	8+	0	0	--		7.29	2.45	2.66	8	8	.0	0	9.3	---	34	N	21	6	12	12	6.2	62
MISSOURI																																
Columbia	778	982.7	1011.2	74	51	62.2	7.7	84	23	37	7+	0	0	44	57	2.21	-1.59	.65	10	5	T	T	10.9	SE	38	NW	24	10	10	10	5.2	67
Kansas City	741	976.3	1010.6	74	52	63.3	7.5	86	18	36	7	0	0	43	51	1.60	2.01	.97	7	4	T	T	12.2	S	42	S	23	14	5	11	4.9	73
St Joseph	809			74	48	61.0	6.5	86	18	31	7	0	1	--	--	1.85	-1.50	.87	6	5	T	T	----	---	--	---	--	--	--	--	---	--
St Louis CO	465	991.9	- --	73	55	63.6	7.1	86	16+	40	7	0	0	--		2.81	-1.20	1.09	10	8	.0	0	11.2	---	46	SW	13	8	7	15	6.1	58
St. Louis	552	991.9	1012.1	74	52	62.9	7.3	85	16+	36	7	0	0	47	61	3.57	-.36	1.02	10	6	T	0	10.4	SE	--	---	--	7	11	12	5.8	--
Springfield	1265	964.1	1011.2	73	51	61.8	6.3	88	22	34	7	0	0	48	64	.86	-3.48	.29	8	4	T	0	14.5	SSE	48	NW	24	9	10	11	5.6	82
MONTANA																																
Billings	3568	885.5	1009.8	56	33	44.6	-1.6	76	30	17	6	0	10	28	56	4.42	3.37	2.48	6	0	42.3	35	13.4	WSW	50	NW	26	5	10	15	6.8	68
Glasgow CO	2090	933.6	1009.3	59	34	46.4	1.3	76	29	19	6	0	9	30	59	2.62	1.62	.83	12	1	9.4	6	11.0	ESE	--	---	--	4	9	17	7.1	--
Great Falls	3664	883.2	1011.0	50	32	40.5	-3.8	67	9	21	4	0	17	25	59	2.48	1.53	.85	12	1	17.4	10	15.4	WSW	47	SW	23	5	8	17	7.1	59
Havre CO	2488	921.1	1010.9	52	31	41.1	-4.0	73	30	5	6	0	16	28	64	3.72	2.82	1.81	10	0	32.9	27	10.2	---	37	W	27	4	9	17	7.3	39
Helena	3893	868.6	1012.6	50	28	39.1	-4.1	72	30	12	6	0	22	26	64	1.32	.44	.63	10	0	10.9	6	9.9	W	35	SE	21+	2	7	21	7.7	54
Kalispell	2965	- ---	------	49	30	39.6	-4.1	67	30	20	5	0	21	--	--	.89	-.13	.39	10	1	1.8	2	----	---	--	---	--	3	5	22	8.0	--
Miles City	2629	924.5	1009.0	62	34	47.8	1.8	79	26	15	6	0	11	29	--	1.47	.39	.87	10	2	1.0	1	11.7	NW	*38	WNW	20	6	9	15	6.6	--
Missoula	3200	898.7	1014.3	51	29	39.8	-4.9	69	30	20	28	0	22	26	62	1.04	.14	.35	15	1	2.0	1	7.6	W	38	W	26	3	2	25	8.1	49
NEBRASKA																																
Grand Island	1841	943.4	1009.1	71	43	56.7	5.8	87	19	24	7	0	2	37	51	1.15	-1.07	.74	3	3	.0	0	16.1	SSE	--	---	--	13	9	8	4.7	--
Lincoln CO	1184	-	- ---	72	47	59.6	7.0	88	19	30	7	0	1	--	--	2.21	-.08	.95	4	3	.0	0	11.2	---	43	W	19	13	10	7	4.3	87
Norfolk	1544	954.3	1009.5	71	42	56.7	8.4	88	19	26	7	0	1	38	50	.64	-1.64	.42	6	4	.0	0	----	---	--	---	--	10	11	9	4.9	--
North Omaha	1323	-	- --	71	45	57.9	--	86	18+	30	7	0	2	--	-	2.89	----	----	6	5	.0	0	----	---	--	---	--	--	--	--	---	--
North Platte	2779	910.3	1008.1	68	37	52.8	4.1	88	26	17	7	0	8	33	52	2.22	.16	1.47	2	3	T	T	15.2	SSE	53	N	23	9	13	8	5.3	75
Omaha	978	970.5	1012.6	72	48	59.9	7.7	87	19	32	7	0	1	40	52	3.52	1.37	2.37	6	4	T	0	13.8	SSE	45	S	3	13	13	4	4.1	75
Scottsbluff	3950	873.0	1009.1	63	33	47.8	1.7	86	26	15	13	0	18	27	50	1.16	-.83	1.04	3	1	8.2	7	14.3	WNW	--	---	--	9	8	13	5.7	--
Valentine CO	2581	916.7	-----	67	39	52.7	5.8	85	26	23	7	0	9	--	--	.93	-1.04	.73	6	2	T	T	11.5	---	39	W	19	13	7	10	5.0	81
NEVADA																																
Elko	5075	841.5	1013.8	55	25	40.2	-4.4	71	29	16	15	0	25	23	53	.31	-.62	.12	6	0	1.4	1	7.8	WSW	*31	WNW	25	6	5	19	6.9	--
Ely	6257	804.3	1011.9	54	24	39.3	4.4	66	24	8	4	0	24	16	43	.21	-.99	.16	3	0	4.3	3	14.4	---	52	S	2	9	9	12	5.9	68
Las Vegas	2162	945.5	1011.5	74	46	60.3	-5.3	85	13+	31	3	0	1	14	19	.11	-.13	.11	1	1	.0	0	13.7	SW	*46	SSW	26	19	6	5	3.1	89
Reno	4397	859.1	1014.4	58	25	41.4	-6.3	71	8	15	3	0	27	20	46	.17	-.29	.13	4	0	1.5	T	10.7	WNW	65	S	25	9	8	13	5.6	68
Winnemucca	4299	865.6	1013.7	57	26	41.2	-5.6	71	9	13	3+	0	22	23	51	.28	-.55	.13	8	1	1.5	1	10.0	---	45	W	18	6	7	17	7.0	57
NEW HAMPSHIRE																																
Concord	339	1003.3	1014.1	57	34	45.6	2.6	74	15	25	12	0	14	34	68	2.03	-1.05	.50	13	1	.3	T	6.4	NW	29	N	29+	8	2	20	7.1	36
Mt Washington	6262	800.8	1013.8	33	22	27.2	5.2	45	30	-6	9	0	28	--	--	6.06	.19	1.09	20	0	38.3	24	31.9	---	99	W	8	7	2	21	7.1	34
NEW JERSEY																																
Atlantic City CO	8	1011.5	----	58	45	51.4	2.0	78	10	34	8	0	0	--	--	2.77	-.63	.91	13	3	.0	0	16.1	---	47	NE	20	6	6	18	7.0	47

See Footnotes at end of table.

CLIMATOLOGICAL DATA

Table 2—Continued

State and station	Elevation, ground	Pressure		Temperature								No. of days		Average dew point	Average relative humidity	Precipitation			No. of days		Snow, Sleet, Hail		Wind		Fastest mile			No. of days sunrise to sunset			Sky cover, sunrise to sunset	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 90° F or above	Min 32° F or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft	Mb	Mb	°F	°F	°F	°F	°F		°F				°F	%	In	In	In			In	In	M p h		M p h			0-3	4-7	8-10	0-10	%
NEW JERSEY (Cont'd.)																																
Newark	[illegible]	1012.[illegible]	[illegible]	[illegible]	41	53.3	[illegible]	[illegible]	[illegible]	[illegible]	8+	[illegible]	0	40	67	[illegible]	1.02	[illegible]	11	2	T	[illegible]	11.8	NE	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	7.3	[illegible]
Trenton CO	[illegible]	1006.[illegible]	1013.[illegible]	64	41	[illegible]	3.[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	0			[illegible]	-.91	1.04	13	2	T	[illegible]	[illegible]		[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	6.5	[illegible]
NEW MEXICO																																
Albuquerque	5310	845.2	1009.3	[illegible]	41	55.1	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	0.0	0	[illegible]	SE	51	SW	[illegible]	[illegible]	[illegible]	[illegible]	3.9	[illegible]
Clayton	[illegible]	840.2	1009.4	[illegible]	[illegible]	51.5	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.92	1.09	4	3	10.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	4.4	[illegible]
Roswell	[illegible]	888.9	1009.[illegible]	[illegible]	[illegible]	61.0	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.56	.19	[illegible]	1	.0	0	[illegible]	[illegible]	[illegible]	W	[illegible]	17	[illegible]	[illegible]	3.6	[illegible]
NEW YORK																																
Albany	[illegible]	[illegible]	1013.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9+	[illegible]	5	[illegible]	69	[illegible]	[illegible]	[illegible]	14	1	[illegible]	[illegible]	9.9	[illegible]	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	54
Binghamton	1601	953.9	1013.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	[illegible]	[illegible]	72	[illegible]	[illegible]	[illegible]	11	3	[illegible]	[illegible]	13.9	[illegible]	[illegible]	SE	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Buffalo	[illegible]	985.4	1014.[illegible]	[illegible]	41	[illegible]	[illegible]	[illegible]	[illegible]	27	8+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	14.0	SW	[illegible]	SW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New York CO	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8+	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	2	T	[illegible]	12.3		[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
New York	[illegible]	1012.2	1014.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8+	[illegible]	[illegible]	40	66	[illegible]	[illegible]	.52	[illegible]	3	[illegible]	0	14.1	NE	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rochester	[illegible]	[illegible]	1013.5	[illegible]	[illegible]	50.8	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	4	[illegible]	72	[illegible]	[illegible]	[illegible]	[illegible]	1	5.[illegible]	[illegible]	13.4	WSW	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Schenectady	217	-		[illegible]	[illegible]	50.2	[illegible]	[illegible]	30	28	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	.71	[illegible]	[illegible]	2.3	[illegible]						[illegible]	[illegible]	[illegible]	[illegible]	
Syracuse	[illegible]	992.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	74	22	25	[illegible]	[illegible]	[illegible]	[illegible]	67	[illegible]	[illegible]	[illegible]	12	4	.1	T	[illegible]	NW	[illegible]	NW	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NORTH CAROLINA																																
Asheville CO	[illegible]			[illegible]	48	59.5	[illegible]	[illegible]	[illegible]	[illegible]	9+	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	10	5	T	[illegible]	[illegible]		[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Charlotte	753	[illegible]	1014.9	76	53	64.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	1.15	2.57	8	5	[illegible]	0	[illegible]	SSW	52	S	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Greensboro	891	983.4	1015.3	[illegible]	49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	.32	1.84	10	[illegible]	T	[illegible]	[illegible]	SW	42	W	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Hatteras CO	4	1014.3	1015.1	[illegible]	[illegible]	61.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.41	.74	[illegible]	3	0	[illegible]	[illegible]	SSW	[illegible]	SW	25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Raleigh	438	998.9	1016.1	75	51	63.1	[illegible]	[illegible]	[illegible]	35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.25	[illegible]	5	T	[illegible]	[illegible]	[illegible]	[illegible]	NW	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wilmington	30	1014.1		77	55	65.7	[illegible]	90	20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].54	[illegible]	.78	11	5	[illegible]	0	11.5		[illegible]	SW	24	[illegible]	1	[illegible]	5.4	[illegible]
Winston Salem	967	979.[illegible]	1015.0	73	[illegible]	62.0	[illegible]	87	[illegible]	[illegible]	[illegible]	0	[illegible]	46	[illegible]	[illegible]	[illegible]	1.94	[illegible]	[illegible]	T	[illegible]	11.1	SW	[illegible]	W	21	[illegible]	[illegible]	[illegible]	5.[illegible]	
NORTH DAKOTA																																
Bismarck	1650	947.9	1008.5	[illegible]	35	[illegible]	[illegible]	81	29	24	6+	[illegible]	[illegible]	[illegible]	[illegible]	1.77	.38	1.01	5	2	.5	T	[illegible]	WNW	63	W	20	[illegible]	[illegible]	[illegible]	[illegible]	63
Devils Lake CO	1471	955.[illegible]	--	59	36	[illegible]	[illegible]	80	30	24	[illegible]	[illegible]	[illegible]			1.35	-.09	.69	10	[illegible]	3.2	[illegible]	10.8		[illegible]	NE	[illegible]	5	[illegible]	[illegible]	7.[illegible]	[illegible]
Fargo	895	974.9	1009.5	64	38	50.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.48	-1.40	[illegible]	9	[illegible]	.3	[illegible]	16.9	S	50	SE	20	[illegible]	[illegible]	17	6.[illegible]	[illegible]
Williston CO	1877	940.7	1008.8	[illegible]	36	[illegible]	4.2	77	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.41	1.34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9.5		[illegible]	NW	15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OHIO																																
Akron	1210	[illegible]	[illegible]	65	[illegible]	53.9	[illegible]	[illegible]	13	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].08	10	6	T	T	[illegible]	SW				[illegible]	[illegible]	[illegible]	[illegible]	
Cincinnati Obs	761		--	70	[illegible]	59.6	6.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	.96	12	7	T	T	[illegible]		[illegible]	SW	[illegible]					60
Cincinnati	869	982.1	1014.[illegible]	70	48	58.6	6.5	[illegible]	18	[illegible]	[illegible]	0	2	[illegible]	[illegible]	2.24	1.35	.76	10	8	0	0	[illegible]	SSW	*29	SW	[illegible]	6	9	15	6.6	
Cleveland	787	986.2	1013.7	67	45	55.9	[illegible]	81	[illegible]	26	8	[illegible]	[illegible]	43	[illegible]	3.72	[illegible]	[illegible].09	10	4	T	T	[illegible]	SSE	[illegible]	SW	[illegible]	10	6	14	5.[illegible]	[illegible]
Columbus CO	724	--		[illegible]	49	58.3	[illegible]	[illegible]	20+	31	[illegible]	[illegible]	1			1.87	1.32	.65	12		T	0										
Columbus	815	984.1	1014.[illegible]	69	45	56.8	[illegible]	[illegible]	20+	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	2.09	1.35	[illegible]	13	6	T	T	9.5	NNW	35	SW	24	[illegible]	[illegible]	[illegible]	[illegible]	68
Dayton	1002	977.5	1013.9	67	47	57.0	[illegible].5	79	5	26	8	[illegible]	2	41	[illegible]	2.92	-.15	[illegible]	12	[illegible]	T	T	9.1	SW	41	SW	22	6	[illegible]	15	[illegible].4	[illegible]
Portsmouth CO	715	989.7	---	71	45	57.9	4.[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	5			3.15	.32	.69	11	7	0	0	5.4		*64	SSW	[illegible]				[illegible]	
Sandusky	603	991.[illegible]	-	67	46	56.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			3.37	.41	.91	10	5	T	T	7.5		38	SW	20+	12	[illegible]	[illegible]	4.9	76
Toledo	676	988.1	1013.5	67	43	[illegible]	[illegible]	78	[illegible]	[illegible]	8	0	3	42	[illegible]	2.22	1.03	1.12	9	4	T	0	12.6	WSW	[illegible]	SW	5	13	5	[illegible]	5.[illegible]	67
Youngstown	[illegible]	971.6	1014.3	65	42	[illegible]	[illegible]	77	20+	23	[illegible]	0	[illegible]	42	[illegible]	4.14	.50	.99	11	[illegible]	T	T	10.9	SW	*[illegible]	W	20+	7	[illegible]	15	[illegible].4	
OKLAHOMA																																
Oklahoma City	1280	967.2	1009.8	76	52	64.1	3.8	95	22	[illegible]	7	1	0	44	55	.78	-2.39	.32	8	9	T	T	15.6	SSE	[illegible]	SW	22	10	8	12	5.3	72
Tulsa	672	986.1	1009.8	77	54	65.5	4.[illegible]	[illegible]	22	28	[illegible]	[illegible]	0	43	58	2.13	-2.12	1.33	10	8	T	T	12.8	SSE	[illegible]	S	3+	10	[illegible]	[illegible]	5.3	67
OREGON																																
Astoria	8	1015.2	1016.4	51	36	43.5	[illegible]	70	6	29	25	0	5	[illegible]	82	8.04	3.86	1.27	26	0	T	T	7.7	SE				4	[illegible]	20	[illegible]	
Burns CO	4140	869.6	1014.2	49	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	26	25	62	2.09	1.27	.36	15	[illegible]	12.1	4						[illegible]	[illegible]	21	8.0	
Eugene	361	1003.4	1017.2	54	36	[illegible]	[illegible]	71	[illegible]	29	15	0	5			4.65	2.11	.91	17	0	T	T		-				[illegible]	5	23	8.[illegible]	
Meacham	4050	--	-	42	27	34.2	[illegible]	60	[illegible]	20	5	0	27			2.85	-.07	.61	16	0	22.[illegible]	4.			-			[illegible]	2	[illegible]	[illegible]	
Medford	1312	968.5	1016.9	56	36	45.6	[illegible]	75	[illegible]	[illegible]	1+	0	[illegible]	34	[illegible]	[illegible]	-.15	.29	14	1	T	0	7.3	WNW	*29	WNW	[illegible]	[illegible]	5	[illegible]	[illegible]	
Pendleton	1492	960.4	1014.6	56	36	46.2	[illegible]	[illegible]	8	29	[illegible]	[illegible]	[illegible]	29	56	1.20	.16	.44	12	0	T	T	[illegible]	W	*44	W	23+	1	7	19	[illegible]	
Portland	21	1010.5	1016.4	55	38	46.5	[illegible]	73	6	[illegible]	1	0	[illegible]	[illegible]	75	4.72	2.61	1.30	23	[illegible]	T	0	[illegible]	ESE	[illegible]	S	[illegible]	2	5	[illegible]	[illegible]	24
Roseburg	505	998.6	1017.6	56	36	45.7		77	6+	27	15+	0	8			3.41	1.28	.61	20	[illegible]	T	T	4.9		[illegible]	N	3+	3	2	25	8.2	30
Salem	195	1009.1	1016.6	55	36	45.[illegible]	-6.2	73	6	27	4	0	9	[illegible]	76	5.18	2.79	1.69	21		T	T	9.3	S				[illegible]	5	22	8.0	
Sexton Summit	3836	---		42	29	35.[illegible]	[illegible]	[illegible]	6+	22	27	0	21	-	-	3.84	1.76	.70	19	[illegible]	30.7	[illegible]						4	1	[illegible]	8.0	
PENNSYLVANIA																																
Allentown	376	1000.0	1014.3	64	42	[illegible]	4.2	[illegible]	11	30	8	[illegible]	[illegible]	42	[illegible]	3.07	.32	1.01	12	[illegible]	T	0	[illegible]	WSW				6	8	[illegible]	6.9	
Harrisburg	335	1000.3	1014.1	65	45	[illegible]	4.4	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	2.02	.95	[illegible]	[illegible]	[illegible]	.0	0	[illegible]	W	[illegible]	NW	[illegible]	[illegible]	4	[illegible]	[illegible]	5[illegible]
Philadelphia CO	26			65	46	55.5	[illegible]	81	[illegible]	[illegible]	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Philadelphia	13	1009.3	1013.8	66	46	55.9	[illegible]	83	[illegible]	34	[illegible]	0	[illegible]	42	[illegible]	1.93	1.45	.92	[illegible]	[illegible]	[illegible]	0	[illegible]	N	42	E	24	[illegible]	8	16	[illegible]	53
Pittsburgh CO	749	----	-----	69	48	58.5	[illegible]	[illegible]	20	[illegible]	[illegible]	0	[illegible]			4.13	1.05	.94	[illegible]		[illegible]	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	59
Pittsburgh	1151	983.8	1014.[illegible]	[illegible]	45	[illegible]	[illegible]	[illegible]	[illegible]	27	[illegible]	[illegible]	[illegible]	12	[illegible]	2.61	-.58	[illegible]	[illegible]	[illegible]	T	0	[illegible].2	WSW	[illegible]	W	[illegible]	[illegible]	[illegible]	15	[illegible]	49
Reading CO	266	1001.9		66	46	[illegible]	4.1	[illegible]	[illegible]	[illegible]	[illegible]	0	0			3.14	-.10	1.02	[illegible]	[illegible]	[illegible]	T	[illegible]		[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Scranton CO	746	979.9		63	42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8	[illegible]	2			2.19	-.84	.57	[illegible]	[illegible]	[illegible]	T	[illegible]		[illegible]	SW	[illegible]	[illegible]	[illegible]	15	[illegible]	43
Williamsport	527	994.9		65	43	53.[illegible]	[illegible]	82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			3.38	-.16	[illegible]	11	[illegible]	[illegible]	[illegible]						[illegible]	[illegible]	[illegible]	7.0	
RHODE ISLAND																																
Block Island	[illegible]	1008.4	1013.[illegible]	52	40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0		[illegible]	3.19	[illegible]	[illegible]	[illegible]	0	T	0						[illegible]	4	[illegible]	7.[illegible]	
Providence	55	1007.4	1013.5	57	41	[illegible]	[illegible]	[illegible]	[illegible]	28	[illegible]	[illegible]	2	[illegible]	[illegible]	3.61	.24	[illegible]	[illegible]	2	T	T	13.[illegible]	NNE	*[illegible]	SSW	[illegible]	[illegible]	4	[illegible]	7.0	[illegible]
SOUTH CAROLINA																																
Charleston CO	[illegible]	-		75	61	67.6	2.0	[illegible]	[illegible]	[illegible]	1	[illegible]	0			2.97	.52	1.69	7	4	0	[illegible]	[illegible]		[illegible]	SW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Charleston	41	1013.9	1015.9	78	56	66.8	[illegible]	[illegible]	[illegible]	[illegible]	9+	[illegible]	[illegible]	[illegible]	[illegible]	3.24	.42	1.59	[illegible]	4	0	[illegible]	[illegible]	SSW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Columbia	217	1006.3	1014.6	[illegible]	54	67.0	[illegible]	[illegible]	[illegible]	36	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	.47	2.92	[illegible]	[illegible]	0	[illegible]	[illegible]	SW	*[illegible]	SSW	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Florence	146	1009.4	--	[illegible]	55	66.4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	1.46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Greenville	1018	977.4	[illegible]	75	54	64.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	59	[illegible]	2.21	[illegible]	[illegible]	6	T	[illegible]	11.0	SW	[illegible]	W	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Spartanburg	801			75	54	64.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	4.22	[illegible]	[illegible]	[illegible]	T	T	7.5		*[illegible]	W	[illegible]					
SOUTH DAKOTA																																
Huron	[illegible]	961.4	1008.[illegible]	[illegible]	40	54.7	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]	5	[illegible]	[illegible]	1.03	-.89	[illegible]	[illegible]	[illegible]	T	[illegible]	[illegible]	SSE	[illegible]	SE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	74
Rapid City	3165	894.3	1007.8	[illegible]	35	[illegible]	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.55	-.46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NNW	[illegible]	NW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sioux Falls	[illegible]	960.[illegible]	1009.5	[illegible]	40	54.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.23	[illegible]	[illegible]	[illegible]	T	[illegible]	[illegible]	SSE	*[illegible]	WSW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
TENNESSEE																																
Bristol	1519	960.6		72	47	59.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			3.73	[illegible]		[illegible]	5	T							[illegible]	[illegible]	[illegible]	[illegible]	
Chattanooga	670	987.3	1014.8	77	51	63.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	8.49	[illegible]	2.23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SSW	[illegible]	SW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Knoxville	950	979.7	1014.9	75	51	62.9	[illegible]	[illegible]	[illegible]	35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.70	[illegible]	1.00	[illegible]	1	[illegible]	[illegible]	[illegible]	WSW	[illegible]	SW		[illegible]	[illegible]	15	[illegible]	59
Memphis CO	271	-	-	74	[illegible]	66.3	[illegible]	[illegible]	[illegible]	45	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	3.85	[illegible]		T	T										
Memphis	263	998.8	1013.4	75	[illegible]	65.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.29	[illegible]	3.50	[illegible]	[illegible]	T	T	11.0	S	[illegible]	S	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nashville	577	994.4	1014.3	75	52	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.62	[illegible]	1.61	[illegible]	[illegible]	T	[illegible]	8.0	SSE	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oak Ridge CO	905	982.0	-	74	48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		-	4.45	[illegible]	[illegible]	[illegible]	[illegible]	T	T	[illegible]	SW	[illegible]	SW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
TEXAS																																
Abilene	1759	949.5	1009.1	[illegible]	57	[illegible]	[illegible]	97	22	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	1.82	[illegible]	1.07	[illegible]	[illegible]	T	0	14.7	SSE	[illegible]	S	[illegible]	[illegible]	[illegible]	12	5.7	63
Amarillo	3590	884.5	1008.1	75	44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	30	.38	[illegible]	.13	[illegible]	[illegible]	[illegible]	T	16.3	[illegible]	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	4.5	[illegible]

See footnotes at end of table.

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max. 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	With thunderstorms	Snow, Sleet, Hail: Total	Max. depth on ground	Average hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb	°F	°F	°F	°F.	°F		°F				°F	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
TEXAS (Cont'd)																																
Austin	615	990.5	1011.5	84	62	72.9	5.0	94	28	50	1	8	0	56	62	0.75	3.21	0.60	3	2	T	0	12.6	SSE	29	NE	7	6	9	15	6.4	6
Brownsville	16	1008.[illegible]	1010.2	85	68	76.7	3.0	93	4+	55	2	3	0	66	77	.22	-1.34	.17	5	2	0.0	0	15.4	SE	33	SE	19	5	10	15	6.6	4
Corpus Christi	40	1010.2	1010.8	85	66	75.4	4.4	102	23	48	2	2	0	65	77	.04	-1.70	.04	2	0	0	0	15.8	SSE	36	SE	19	5	10	15	6.7	6
Dallas	487	993.2	1011.2	81	59	70.2	3.9	95	21	40	7	4	0	54	61	1.98	-1.89	.96	5	4	T	0	14.4	SSE	40	W	12	5	14	11	6.1	6
Del Rio	1091	976.3	1009.2	88	63	75.5	4.4	98	22	48	2	16	0	48	46	.01	-1.44	.01	1	2	0	0	11.8	---	43	NW	12	9	8	13	6.0	6
El Paso	3920	882.8	1010.2	78	51	64.8	1.7	89	29	40	10	0	0	18	18	.00	-.27	.00	0	0	.0	0	15.2	WSW	56	NW	23	19	3	8	3.4	8
Fort Worth	544	991.2	1011.5	81	58	69.6	3.7	95	21	40	8	4	0	53	61	1.94	-1.91	.93	7	4	T	T	13.1	S	*40	WSW	12	5	13	12	6.2	-
Galveston CO	7		-----	75	67	70.9	2.0	87	24	56	1	0	0	-	-	3.18	.09	2.15	6	--	0	0	13.2	---	42	S	23	--	--	--	---	6
Galveston	5	1012.8	1012.9	76	66	70.8	1.7	85	24	56	2	0	0	65	83	4.24	.84	2.64	4	4	.0	0	13.8	SSE	--	- -	--	5	8	17	6.5	-
Houston CO	41	1007.5	-----	80	64	72.0	2.5	90	30	55	2	2	0		--	2.05	-1.35	1.11	6	5	.0	0	11.4	---	34	S	23	8	7	15	6.0	6
Houston	50	1009.8	1012.5	80	62	71.2	2.8	90	30	50	2	1	0	61	75	3.51	.42	1.54	6	5	.0	0	14.4	SSE	--	-	--	7	5	18	6.8	-
Laredo	500	994.6	1008.5	91	67	78.9	5.0	102	23	56	2	20	0	57	54	.03	-1.58	.03	1	0	.0	0	12.1	SE	*33	SE	18	7	13	10	5.7	-
Lubbock	3243	898.7	1008.5	78	44	61.2	1.7	92	17	31	7	4	2	30	36	.19	.92	.19	1	2	.0	0	17.2	SW	*53	N	1	12	13	5	4.6	-
Midland	2851	912.0	1011.9	83	53	68.0	3.5	96	22	39	7	10	0	27	28	T	-1.41	T	0	0	0	0	11.3	S	*31	W	3	14	7	9	4.4	-
Port Arthur	16	1012.2	1013.2	80	61	70.6	2.7	93	30	51	2+	2	0	62	79	3.41	-.53	1.24	8	0	.0	0	13.5	SSE	38	S	23	7	8	15	6.5	5
San Angelo	1903	943.8	1009.5	84	58	71.0	3.6	98	22	41	2	11	0	40	39	.42	-1.77	.20	3	3	.0	0	13.8	SSW	*44	WNW	23	8	12	10	5.3	-
San Antonio	792	986.5	1010.8	85	63	73.8	5.0	94	22+	48	2	9	0	53	56	.14	-2.88	.13	3	0	.0	0	10.0	SSE	33	N	6+	6	10	14	6.3	6
Victoria	110	1007.[illegible]	1011.2	83	64	73.8	3.2	93	23	53	2	4	0	61	68	.78	-1.66	.33	5	2	.0	0	11.8	---	%43	SSE	23	5	12	13	6.4	-
Waco	500	992.9	1011.2	81	60	70.4	3.6	91	21	46	7	3	0	56	64	1.30	-2.67	1.12	6	5	.0	0	15.4	S	-	--	--	5	11	14	6.7	-
Wichita Falls	1027	973.6	1009.1	81	54	67.6	5.0	96	22	35	7	6	0	47	52	1.58	-.77	1.20	6	7	T	T	13.2	SE	*37	NW	23+	9	12	9	5.5	-
UTAH																																
Milford	5028	840.5	1012.3	61	29	45.1	-2.7	74	30	12	4	0	19		-	.02	-.74	.02	1	0	.2	T	----	---	--	- -	--	13	10	7	4.9	--
Salt Lake City	4220	863.9	1012.1	59	33	45.7	-4.4	77	30	15	5	0	18	28	55	2.04	.28	.77	8	0	21.8	9	10.2	S	54	SW	26	6	9	15	6.8	58
VERMONT																																
Burlington	331	999.1	1013.8	60	37	46.2	3.9	70	22+	21	9	0	10	35	68	2.16	-.47	.70	8	0	1.9	1	11.2	S	34	S	17	5	8	17	7.3	55
VIRGINIA																																
Lynchburg	947	980.7	--	71	49	59.6	4.1	87	19	30	8	0	1	-	--	2.79	-.34	1.29	11	4	.0	0	8.8	---	29	NE	29	10	4	16	6.3	58
Norfolk	26	1013.2	1014.4	71	50	60.5	1.2	89	24	38	8	0	0	50	62	1.73	-1.43	.67	12	3	.0	0	8.7	SW	43	NW	24	7	7	16	6.5	4
Richmond	162	1008.4	1014.7	73	49	60.8	4.7	88	19	30	8	0	1	48	67	3.14	-.09	1.12	13	3	.0	0	8.4	SW	23	W	24+	6	9	15	6.3	57
Roanoke	1174	971.9	1014.6	72	49	60.1	4.6	87	20	32	1	0	1	44	62	3.84	.89	1.26	7	5	T	0	9.1	NNW	--	---	--	9	6	15	6.3	--
WASHINGTON																																
Olympia	190	1007.8	1015.5	54	33	43.6	4.8	76	6	26	4	0	14	34	72	4.19	1.85	.72	22	1	.1	T	8.3	SSW	*32	W	26	3	5	22	8.1	--
Seattle CO	14	----	---	54	40	47.2	4.6	70	6	37	14+	0	0		-	2.20	.26	.74	20	0	T	0	11.8	---	42	W	23	3	15	12	7.3	60
Seattle	14	1014.5	1015.4	--	--	---	-	--	--	--	-	--	-	36	69	----	----	---	--	-	---	--	9.6	SSW	--	---	--	--	--	--	---	--
Seattle-Tacoma	379	1001.4	1015.7	53	36	44.6	-4.5	70	6	31	5+	0	4	36	74	3.64	1.52	.77	19	1	T	0	13.7	SW	*40	SW	12+	1	7	22	7.8	--
Spokane	2357	944.1	1013.7	50	31	40.6	-5.7	66	7+	26	3+	0	21	28	64	1.83	.84	.62	11	0	.6	T	9.6	SW	32	SW	23	2	10	18	7.5	50
Stampede Pass CO	3958	875.0	1015.6	36	25	30.7	6.4	60	5	21	14+	0	28	-	--	9.53	4.03	1.42	25	0	73.9	161	----	---	--	---	--	3	3	24	8.4	--
Tatoosh CO	101	1011.5	1014.7	48	39	43.4	4.1	58	6	35	24	0	0	38	81	7.47	2.24	1.89	20	0	T	T	14.4	S	68	S	12	1	9	20	7.7	4
Walla Walla CO	949	978.3	1014.2	57	39	48.0	5.9	75	8	33	5	0	0	-	--	2.08	.84	.63	12	0	T	T	6.8	---	31	W	26	3	11	16	7.1	4
Yakima	1061	974.9	1014.5	58	30	43.8	7.6	75	7	22	15+	0	21	26	51	1.41	.98	.84	7	0	T	T	7.9	W	--	---	--	3	10	17	7.2	--
WEST VIRGINIA																																
Charleston	950	978.9	1014.2	71	47	59.2	4.2	87	19	29	8	0	5	44	61	2.51	-1.23	.89	13	5	T	T	8.8	SW	*35	W	21	8	4	18	6.5	--
Elkins	1970	----	-----	67	40	53.2	4.1	82	18	22	1	0	9	42		1.54	-1.82	.38	11	7	T	T	7.3	NW	*37	WSW	14	5	8	17	7.3	--
Huntington	565	---	-----	73	48	60.4	3.1	90	18	30	8	1	1			2.23	-1.19	.60	9	--	.0	0	----	---	--	--	--	--	--	--	---	--
Parkersburg	615	--	--	71	47	58.8	5.0	85	18	30	8	0	2	-	-	4.53	1.45	1.44	13	9	.0	0	5.9	---	23	NW	19	8	6	16	6.1	50
WISCONSIN																																
Green Bay	689	990.2	1014.2	60	38	48.9	7.1	78	10	27	7	0	7	38	71	2.40	-.11	.98	8	4	T	T	10.4	NE	50	SW	18	12	4	14	5.5	5
La Crosse	652	987.1	1012.2	65	43	54.0	7.4	78	9	28	7	0	2	40	61	3.24	.93	1.14	6	2	T	0	11.2	SE	*33	W	21	14	4	12	5.1	--
Madison	857	977.0	1012.2	65	41	53.1	7.4	79	10	29	7	0	4	40	68	3.65	1.16	2.15	10	6	T	T	11.0	ESE	38	SW	21	13	5	12	5.0	6
Milwaukee	675	988.2	1013.6	60	41	50.7	6.4	77	10	30	7	0	1	39	69	2.43	.04	1.30	9	3	T	T	12.7	SE	35	SW	21	13	4	13	5.3	62
WYOMING																																
Casper	5322	831.0	1008.4	57	30	43.3	3	74	26+	8	5	0	17	21	49	1.44	-.48	.55	6	0	15.3	7	16.3	SW	*46	SSW	17+	8	9	13	6.0	--
Cheyenne	6131	805.3	1008.7	57	28	42.8	1.7	78	30	9	12+	0	19	19	43	1.16	-.98	1.16	2	0	16.6	17	16.0	WNW	67	NW	12	7	13	10	5.6	5
Lander	5563	829.7	1010.7	55	28	41.3	-.8	75	29	10	5	0	20	22	50	1.50	-.91	.77	5	0	17.5	8	9.1	---	72	SW	15	7	12	11	5.7	7
Sheridan	3942	878.1	1010.2	58	30	43.8	.3	82	29	15	6	0	20	27	56	4.52	2.26	3.06	8	0	39.6	33	12.5	WNW	63	NW	3	10	6	14	6.0	60
PACIFIC AREA																																
Canton Island	9	1008.8	1009.2	87	78	82.2	-1.5	88	16+	74	17	0	0	74	80	1.53	-2.25	.56	15	0	.0	0	----	---	--	---	--	2	20	8	5.9	--
Hilo	31	1016.3	1017.7	78	63	70.6	-1.0	81	26	59	6	0	0	64	82	16.80	3.53	4.14	30	1	.0	0	6.8	WSW	*24	ENE	17+	0	7	23	8.7	3
Honolulu	7	1017.3	1018.0	80	68	74.1	.2	82	4+	66	11+	0	0	61	67	.85	-.79	.55	9	0	.0	0	14.1	ENE	33	NE	18+	8	9	13	6.7	66
Koror CO	94	1005.4	1009.1	89	75	81.9	.4	92	14	72	29	5	0	76	83	6.47	-2.31	1.46	20	4	.0	0	----	---	--	---	--	0	14	16	7.5	--
Lihue	115	1013.2	1018.5	79	67	73.1	1.1	82	10	61	7	0	0	64	75	1.56	-1.47	.45	19	0	.0	0	15.0	NE	28	E	14	3	9	18	7.3	3
Ponape CO	112	1004.7	1010.2	86	73	79.3	-2.2	90	16	70	22+	1	0	74	86	33.04	14.04	5.02	28	0	.0	0	----	---	--	---	--	0	0	30	9.8	--
Truk (Moen Island)	8	1009.5	1009.9	84	76	80.1	-1.1	86	2+	72	25	0	0	76	85	23.03	11.51	3.59	25	3	.0	0	----	---	--	---	--	0	2	28	9.6	--
Wake Island	11	1015.2	1015.6	82	73	77.4	-.9	83	1+	70	13+	0	0	69	77	2.40	.46	.59	19	0	.0	0	18.2	ENE	--	---	--	13	14	3	4.6	--
Yap CO	53	1007.1	1009.1	87	77	82.3	.0	90	22+	72	18	2	0	75	80	7.98	2.23	3.35	17	0	.0	0	----	---	--	---	--	0	8	22	8.6	--
Majuro	10	1008.8	1009.1	85	75	80.1	--	88	11	70	5	0	0	75	83	13.22	----	2.63	23	0	.0	0	----	---	-	--	--	1	6	23	8.2	--
WEST INDIES																																
San Juan, P R	9	1013.2	1015.3	83	70	76.5	-.5	90	30	66	22	1	0	67	74	1.75	-2.70	.60	10	0	.0	0	10.8	ENE	30	NE	9	9	14	7	5.1	7

Data from airport unless otherwise specified. CO indicates data from city office.
* Data entered in column "Fastest Mile" is the fastest mile observed This station is not equipped with automatic recording wind instrument.
+ And also on a later date or dates
% Peak gust.
a Maximum hourly average.

HEATING DEGREE DAYS

(Base 65°F.)

le 3

APRIL 1955

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
irmingham	50	2684	2750
obile	20	1647	1612
ontgomery	34	2218	2137
ARIZONA			
agstaff	743	6857	6848
hoenix (CO)	35	1350	1492
hoenix	37	1433	1698
rescott	447	4349	4352
ucson	74	1722	1776
inslow	404	4628	4550
uma	22	1047	951
ARKANSAS			
t. Smith	82	2996	3164
ittle Rock	59	2846	2964
exarkana	59	2416	2362
CALIFORNIA			
akersfield	189	2393	2094
ishop	447	4600	4044
lue Canyon	844	5449	5120
urbank	170	1564	1701
ureka (CO)	533	4262	3975
resno	300	2952	2489
os Angeles (CO)	125	1159	1364
os Angeles	184	1443	1838
t. Shasta (CO)	754	5872	5382
akland	415	3051	2832
ed Bluff	355	2975	2495
acramento (CO)	308	2863	2510
acramento	335	3042	2712
andberg (CO)	559	4169	3926
an Diego	158	1223	1434
an Francisco (CO)	374	2895	2641
an Francisco	380	3237	2993
an Jose	347	2565	2227
anta Maria	395	2853	2553
COLORADO			
lamosa	764	7846	8016
olorado Springs	522	5817	5872
enver	444	5559	5781
rand Junction	475	5982	5628
ueblo	377	5158	5479
CONNECTICUT			
ridgeport	437	6934	5609
artford	449	5664	5907
ew Haven	473	5404	5713
DELAWARE			
ilmington	300	4683	4794
DIST. OF COLUMBIA			
ashington (CO)	197	4013	4178
ashington	209	4085	4246
FLORIDA			
palachicola (CO)	10	1316	1307
aytona Beach	7	1026	868
ort Myers	0	450	405
Jacksonville (CO)	8	1677	1113
Jacksonville	6	1339	1243
Key West (CO)	0	77	77
Miami (CO)	0	314	173
Miami	0	199	178
Miami Beach	0	118	123
Orlando	3	783	650
Pensacola (CO)	14	1470	1435
Tallahassee	11	1628	1519
Tampa	2	736	674
West Palm Beach	0	272	248
GEORGIA			
Athens	53	2811	2785
Atlanta	56	2751	2806
Augusta	65	2536	2138
Columbus	33	2357	2396
Macon	30	2158	2049
Rome	77	3232	3111
Savannah	40	2020	1710
IDAHO			
Boise	621	6165	5549
Lewiston	593	5688	5193
Pocatello	710	7395	6523
ILLINOIS			
Cairo (CO)	73	3531	3709
Chicago (CO)	294	5257	
Chicago	239	5384	6023
Chicago University	317	5471	
Moline	236	5848	6120
Peoria	190	5419	5854
Springfield	167	4998	5490
INDIANA			
Evansville	157	4228	4264
Ft. Wayne	264	5529	6008
Indianapolis	235	5118	5405
South Bend	323	5840	6214
IOWA			
Burlington	219	5562	5888
Des Moines	236	5885	6200
Dubuque	334	6630	6928
Keokuk (CO)	166		
IOWA (Cont'd.)			
Sioux City	220	6177	6730
KANSAS			
Concordia (CO)	177	4869	5157
Dodge City	214	4532	4908
Goodland	393	5741	6068
Topeka (CO)	129	4530	4794
Topeka	150	4650	5057
Wichita	147	4189	4463
KENTUCKY			
Lexington	196	4416	4824
Louisville	134	4116	4340
Pikeville (CO)	122	3733	
LOUISIANA			
Baton Rouge	22	1559	1595
Lake Charles	20	1380	1543
New Orleans (CO)	15	1125	1175
Int.Airport,Moisant	13	1296	1317
Shreveport	34	2042	2117
MAINE			
Caribou	813	8955	9460
Greenville (CO)	761	8419	
Portland	629	6804	7170
MARYLAND			
Baltimore (CO)	203	3994	4130
Baltimore	274	4597	4667
Frederick	295	4891	4748
MASSACHUSETTS			
Blue Hill Obs.	588	6150	
Boston	469	5273	5513
Nantucket	633	5326	5569
Pittsfield	555	6992	7253
MICHIGAN			
Alpena (CO)	562	7086	7501
Detroit	311	5654	6093
Detroit(Willow Run)	293	5712	6170
East Lansing (CO)	307	5935	
Escanaba (CO)	580	7406	8020
Grand Rapids (CO)	301	5732	6168
Grand Rapids	358	6149	6695
Marquette (CO)	542	7442	7863
Muskegon	404	6153	6623
S. Ste. Marie	611	8219	8752
MINNESOTA			
Duluth (CO)	597	8760	8887
Duluth	574	8912	9285
Internat. Falls	554	9731	9992
Minneapolis	328	7286	7514
Rochester	392	7417	7705
St. Cloud	424	8217	8456
MISSISSIPPI			
Jackson	45	2231	2202
Meridian	50	3371	2324
Vicksburg (CO)	35	1979	2000
MISSOURI			
Columbia	121	4467	4964
Kansas City	108	4394	4769
St. Joseph	157	5001	5195
St. Louis (CO)	88	4089	4368
St. Louis	107	4254	4587
Springfield	140	4226	4559
MONTANA			
Billings	605	6483	6683
Glasgow (CO)	550	7700	8265
Great Falls	728	6926	7030
Havre (CO)	711	7321	7775
Helena	767	7871	7654
Kalispell	754	7796	7449
Miles City	510	6873	7459
Missoula	750	7619	7332
NEBRASKA			
Grand Island	258	5835	6077
Lincoln (CO)	188	5384	5661
Norfolk	253	6135	6754
North Platte	371	6332	6244
Omaha	180	5527	5953
Scottsbluff	514	6379	6455
Valentine (CO)	375	6409	6704
NEVADA			
Elko	734	7570	6774
Ely	765	7581	6825
Las Vegas	168	2769	2425
Reno	702	6150	5553
Tonopah	611	6048	5450
Winnemucca	709	6901	5959
NEW HAMPSHIRE			
Concord	578	6782	7214
Mt. Washington	1130	12294	
NEW JERSEY			
Atlantic City (CO)	402	4474	4528
Newark	346	4785	5093
Trenton (CO)	323	4741	4924
NEW MEXICO			
Albuquerque	292	4157	4319
Clayton	398	4749	4930
Roswell	149	3381	3396
NEW YORK			
Albany	155	6362	6666
Binghamton	491	6808	7131
Buffalo	414	5981	6451
New York (CO)	362	4724	4879
La Guardia Field	347	8781	4838
Rochester	420	6193	6520
Schenectady	438	6099	
Syracuse	400	6199	6236
NORTH CAROLINA			
Asheville (CO)	182	4026	3962
Asheville	225	4331	
Charlotte	64	3081	3176
Greensboro	136	3765	3760
Hatteras (CO)	114	2496	2367
Raleigh	109	3472	3328
Wilmington	70	2523	2316
Winston-Salem	127	3642	3672
NORTH DAKOTA			
Bismarck	475	7894	8562
Devils Lake (CO)	509	8889	9409
Fargo	424	8486	8835
Grand Forks	478	9111	
Pembina	474	8889	
Williston (CO)	529	7922	8570
OHIO			
Akron	330	5764	5918
Cincinnati (CO)	144	4067	4424
Cincinnati	203	4686	5023
Cleveland	268	5258	5737
OHIO			
Columbus	243	5071	5404
Dayton	237	5127	5379
Sandusky (CO)	254	5173	5601
Toledo	288	5608	6089
Youngstown	335	5817	5878
OKLAHOMA			
Oklahoma City	117	3382	3604
Tulsa	88	3186	3540
OREGON			
Astoria	637	4780	4416
Burns (CO)	791	7065	6410
Eugene	598	4772	4384
Meacham	915	7567	7034
Medford	574	4740	4271
Pendleton	559	5204	4956
Portland (CO)	517	4130	3874
Portland	552	4554	4297
Roseburg	571	4624	
Salem	586	4762	4234
Sexton Summit (CO)	868	6249	5497
PENNSYLVANIA			
Allentown	361	5446	5691
Harrisburg	291	4939	5116
Philadelphia (CO)	285	4304	4430
Philadelphia	272	4418	4762
Pittsburgh (CO)	202	4629	4898
Pittsburgh	269	5314	5674
Reading (CO)	277	4711	4926
Scranton (CO)	362	5627	5816
Williamsport	333	5477	5692
RHODE ISLAND			
Block Island	564	5170	5412
Providence	481	5467	5809
SOUTH CAROLINA			
Charleston (CO)	31	1822	1769
Charleston	52	2086	1973
Columbia	47	2604	2435
Florence	50	2476	2507
Greenville	77	3092	3028
Spartanburg	80	3082	3018
SOUTH DAKOTA			
Huron	311	7132	7543
Pierre	330	6706	
Rapid City	451	6453	7030
Sioux Falls	309	6985	7492
TENNESSEE			
Bristol	186	4146	4053
Chattanooga	80	3463	3339
Knoxville	109	3513	3540
Memphis	64	3028	3113
Nashville	91	3519	3470
TEXAS			
Abilene	72	2265	2657
Amarillo	204	3665	4246
Austin	19	1818	1713
Brownsville	0	392	617
Corpus Christi	1	722	1011
Dallas	52	2146	2272
Del Rio	7	1338	1407
El Paso	64	2521	2641
Ft. Worth	57	2193	2356
TEXAS (Cont'd.)			
Galveston (CO)	9	990	1211
Galveston	7	1036	1233
Houston (CO)	18	1134	1276
Houston	15	1230	1388
Laredo	3	744	781
Lubbock	157	3380	3551
Midland	69	2469	
Port Arthur	26	1339	1517
San Angelo	54	2065	2107
San Antonio	13	1226	1579
Victoria	5	1777	1126
Waco	30	1834	2025
Wichita Falls	84	2565	3009
UTAH			
Milford	590	6532	6099
Salt Lake City	572	6129	5552
VERMONT			
Burlington	558	7269	7486
VIRGINIA			
Lynchburg	176	5056	4066
Norfolk	171	3359	3395
Richmond	155	3805	3889
Roanoke	167	4111	4071
WASHINGTON			
Olympia	633	5331	4980
Seattle (CO)	525	4302	4085
Seattle-Tacoma	605	5055	4813
Spokane	724	6657	6376
Stampede Pass (CO)	1026	8770	8075
Tatoosh Island (CO)	640	5050	4957
Walla Walla (CO)	503	4784	4639
Yakima	631	5891	5587
WEST VIRGINIA			
Charleston	205	4376	4299
Elkins	345	5529	5496
Huntington (CO)	171	4104	3983
Parkersburg (CO)	207	4548	4618
WISCONSIN			
Green Bay	479	7467	7805
La Crosse	326	6915	7326
Madison (CO)	331	6582	6955
Madison	348	6727	7063
Milwaukee	423	6282	6745
WYOMING			
Casper	644	6937	7111
Cheyenne	659	6605	6927
Lander	706	7250	7744
Sheridan	629	7016	7355
ALASKA			
Anchorage	1012	9817	9852
Annette	733	6227	6279
Barrow	2003	17642	17629
Bethel	1402	12046	11733
Cordova	946	8345	8459
Fairbanks	1297	13705	13419
Juneau	802	7642	7988
Kotzebue	1731	15081	14403
McGrath	1429	13653	13431
Nome	1563	13216	12540
Northway	1240	14597	14568
St. Paul	1200	9586	9210
Yakutat	942	8117	8216

Data from airport unless otherwise specified.
CO indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4 April 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
	1									Minor storms reported at Aberdeen, Greenwood, and near Vicksburg, Miss.
Chino Valley area, Ariz.	2	9 a.m.				2	$20,000		Wind	2 freight cars carrying large hangar doors toppled over, plus caboose. A few power poles torn down at site. Minor damage over State also due to high winds. Storm moved northeastward.
Hancock County (western portion), Ga.	2	Afternoon	Short	Narrow			10,000		Wind	High winds struck locally about 8 miles west of Sparta, shaking Green Springs schoolhouse off its pillars and causing roof to cave in to damage tables and other school equipment. School building sufficiently damaged to require rebuilding, involving a loss of probably $10,000. Storm moved eastward.
Idaho, southern portion	2	Afternoon				1	3,000		Wind	Although strong winds accompanied by either blowing dust or snow reported at a number of points, damage appears to have been confined to Cassia County, particularly to area between Burley and Malta where reduction of visibility by blowing snow on U.S. Highway 30 resulted in numerous minor traffic accidents. Damage to 11 automobiles estimated at $3,000; some 20 to 25 cars had to be pulled from ditches and snowbanks by wreckers, and traffic nearly brought to halt for 2 or 3 hours. Storm moved eastward.
Tifton (near), Tift County, Ga.	2	Afternoon	4	800	0	0	5,000	$ 0	Tornado, wind, rain, and hail	Storm of tornadic character moved northeastward in northern Tift County through rural pasture country. Struck first about 5 miles north of Tifton, where roofing blown off several buildings, including stock shed and tobacco barn, with metal roofing scattered over several acres; also large gasoline tank dislodged from its platform. Storm continued through open pasture land for about 4 miles when it struck and lifted large 7-room house from its foundation and dropped it on ground about 8 feet from its original position; building was so roughly shaken that chimneys were torn down and considerable damage done to inside furnishings as well as rendering building itself rather distorted in appearance. Residents in area did not see funnel cloud, but reported roaring sound like that of passing train.
Baxley (near), Appling County, Ga.	2	Afternoon	5		0	0	10,000	Little	Tornado (suspected), wind, and rain	Described locally as small tornado, moved east-northeastward through western and central areas of Appling County, passing near and to south of Baxley. Considerable timber blown down or otherwise damaged in western areas of County. Tobacco barn destroyed southwest of Baxley, and another tobacco barn and tenant house badly damaged east of Baxley. Although meager facts do not corroborate storm as being tornado, its behavior was similar to tornadic action in moving over narrow path with pinpointed damage concentration. It is also in the same general line of storm occurrence that resulted in definite tornado movement earlier in Dodge and Laurens Counties.
Dodge and Laurens Counties, Ga.	2	4:30-5 p.m.	5-6	50	0	0	8,000	0	Tornadoes	2 tornadoes moved eastward simultaneously along same general path from point slightly east of Plainfield in Dodge County to area in Laurens County about 5 miles south of Cadwell. 2 separate funnels observed to move in "zig-zag" course, lifting and hitting again several times. Damages occurred in rural areas, affecting 5 or more farms. First damage occurred on farm where roofs of home and barn torn off; after passing through pasture with little damage, storm cut path through about 2,300 feet of timber, causing considerable damage; crossing Dodge-Laurens County line, storm demolished barn and blew over garage on another farm. Approximately $5,000 of the $8,000 loss was to timber.
Macon (6 miles east of), Ga.	2	4:58 p.m.	1 1/2	*1			25,000	Negligible	Hail	Heavy hail, accompanied by moderately strong winds, fell between Macon and Bibb-Twiggs County line, affecting Jeffersonville Road area and southward to Camp Wheeler vicinity. Hail measured up to 1 to 1 1/2 inches in diameter in some areas, and lay 1 to 6 inches deep in some places soon after passage of storm. Accompanying rain lasted about 3 hours, and duration of hail was 10 to 25 minutes. Numerous windows broken including those of a greenhouse, house roofs damaged, some badly; road construction work and equipment and other miscellaneous property damaged, with moderate to heavy damage to trees and flowers. Owing to previous freeze destruction, very few crops were growing and little or no damage to them resulted. Storm moved northeastward.
Broxton, Coffee County, Ga.	2	5:20 p.m.	1/4	300	0	1	50,000	10,000	Tornado, wind, rain, and hail	Storm moved eastward over very short path, affecting mostly business area and edge of residential area. More than 10 business places damaged, some of them

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Broxton, Ga. (Cont'd)										severely, and 6 or more structures in residential section suffered moderate to severe damage, with numerous trees uprooted or blown down and considerable damage to utility lines. Heavy rain accompanied by hail, measuring about 1/4 inch in diameter, occurred immediately after passage of tornado. Hail reported to extend over area of 100-square miles in and near Broxton, including a much larger area than that affected by tornado. Losses to crops from hail estimated at $10,000, while losses to property from tornado estimated at $50,000.
Dania, Broward County, Fla.	2	7 p.m.	Short	Narrow	0	0	$ 400	$ 0	Tornado and rain	Destroyed small barn and unroofed tool sheds at Humane Society animal shelter. Storm moved northeastward.
Savannah (northeastern portion), Ga.	2	9:25 p.m.	5	200	0	0	30,000	0	Tornado, wind, rain, and electrical	Storm moved north-northeastward, dipping and lifting over length of about 5 miles. Several persons reported seeing funnel cloud and hearing roar like that of moving freight train. Powerline and several TV antennas blown down; about a mile farther to north-northeastward screen of drive-in theater practically demolished, with damages to adjacent offices and mostly light damages to parked automobiles and other property. Third point of damage was about 1/2 mile beyond drive-in theater where frame building shaken off its foundation, and about 1/4 mile farther, small garage lifted and upturned; several trees and TV aerials nearby blown down. Last evidence of tornado was about 1 1/2 miles farther on in path; 4 units of housing project damaged, 2 of them being rather severe and near total destruction; also roofs of several nearby buildings damaged and a number of trees uprooted or blown down.
	2									Minor storm also reported in Putnam County, Ga.
Colorado, entire State	2-3			Entire State	2	1	100,000	Heavy	Wind, snow, and dust	Continued soil erosion further damaged pastures, ranges, winter grains, and spring crops. Losses heavy, possibly exceeding $1,000,000. Fresh to strong, dust-laden winds prevailed west of Continental Divide and in San Luis Valley on 2d, and over eastern plains on 3d, with moderate to heavy drifting snows over extreme northwest on 2d. Dust over western section of foreign origin as it varied in color from red to chocolate brown. The plain's dust was the usual gray shade. Visibility reduced greatly in all sections, and an airplane accident near Paoli, apparently resulted therefrom, in which 2 lives were lost. Several automobile accidents also due to reduced visibility. 1 person injured at Burlington as result of wind. Estimated damage to buildings, transmission lines, radio and TV towers, and antennas exceeded $100,000, and crops suffered further from wind-dried soils. Storm moved eastward.
Wyoming, northeastern portion	2-4						Light	1,000,000	Snow and wind	Damage mostly to livestock.
Montana, east of Continental Divide	2-5	P.m. 2d to p.m. 5th	300				127,000	214,300	Snow and wind	One of heaviest and latest spring snowstorms ever reported in Montana. Although losses incurred, value of moisture far exceeded loss. Surface transportation hampered during storm; several buses and many automobiles stalled in snow drifts for several hours. Estimated losses of livestock included in crop damage. Storm moved eastward.
South Dakota, central and eastern portions	3	Daytime							Wind and dust	Strong southeast winds reaching speeds of 40 to 70 m.p.h., damaged small buildings, fences, antennas, etc. Considerable blowing dust; some soil erosion on fall-plowed fields. Visibility near zero at times in local areas.
Clarinda, Page County, Iowa	3	7-7:15 p.m.	1/2	440	0	0	2,300	0	Tornado, wind, rain, hail, and electrical	Tornado associated with thunderstorm. Funnel cloud moved across town from northwest. Buildings damaged. Car blown from highway 1 1/2 miles from center of path.
Iowa, entire State	3	Evening					15,000		Wind	Heaviest damage to buildings and utility lines in west and north, with lesser damage reported from widely scattered locations over the rest of State.
	3									Minor storms also reported at Clarksdale, and near Stanberry and Maryville, Mo.
Western Massachusetts, southern Vermont, and northwestern Connecticut	3-4	Early p.m. 3d to a.m. 4th				5			Snow and wind	Heaviest April snowstorm of record in many parts of these areas. Snow depths from 10 to 25 inches. High winds drifted snow to even greater depths. Heaviest damage to power and telephone lines. Traffic halted or slowed to crawl. Many motorists stranded and hundreds of autos abandoned on highways.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Cape Cod, Martha's Vineyard, and Nantucket Island, Mass.	3-4	P.m. 3d to noon 4th					$500,000		Wind, snow, and sleet	One of worst April storms of record. Combination of high winds, heavy, wet snow and sleet snapped several hundred utility poles; 6,200 phones out, some for several days; electric power out in thousands of homes. Damage to facilities of utility companies represented great bulk of total. Peak gusts reported above 70 m.p.h.
South Dakota, northern Black Hills	3-5								Snow and wind	Traffic stopped by blocked roads. Scheduled meetings and school attendance cancelled. Temperatures in 20's. Snowfall ranged up to 52 inches at Lead.
	3-5									Minor storm also reported in extreme western Nebraska.
Winthrop, Sibley County, Minn.	4	A.m.					100,000		Electrical and rain	Fire which started by lightning destroyed hotel and bowling alley and caused much damage to market and upstairs apartment.
Sugartown, Beauregard Parish, La.	4	3:05 p.m.	1	500	0	0	Slight	$ 0	Tornado, wind, rain, and electrical	Tornado, moving northeastward, uprooted trees, broke telephone poles, and lifted objects into air; passed so rapidly funnel not observed.
Minburn to Woodward, Dallas and Boone Counties, Iowa	4	4:10 p.m.	10	* 5	0	0	10,000	0	Tornado and hail	Tornado moved northeastward from 2 miles east of Minburn to 7 miles north of Woodward. Destroyed machine shed and damaged other buildings and contents. Hail damaged roofs of buildings not otherwise damaged. Severe damage on path 1/2 mile long and 440 yards wide, minor damage over entire path.
Green Forest, Carroll County, Ark.	4	8 p.m.	10	50	0	0	6,300	0	Tornado, rain, hail, and electrical	Accompanied by heavy hail in area, and to west for several miles near Berryville. No particular hail damage. 6 barns blown down, several smaller buildings damaged, and trees downed. Storm traveled east-northeastward.
Center Community, Howard County, Ark.	4						Considerable		Hail, wind, and rain	Hailstones on ground to depth of 4 inches, and most all roofs in community damaged.
	4									Minor storms also reported near Texarkana, Ark.; and near Nelson and Boonville, Mo.
Crockett and Gibson Counties, Tenn.	5	Early a.m.				2	100,000	Slight	Wind	Violent thunderstorm hit Eaton community in Gibson-Crockett County section. Woman received broken back when wind destroyed her home. 12 homes damaged and many telephones and powerlines blown down.
Stamford to Woodson, Jones and Throckmorton Counties, Tex.	5	5:30 a.m.	50		0	6	1,000,000	0	Tornado, wind, rain, hail, and electrical	Almost every home in Stamford suffered some damage; Red Cross indicates 700 homes and 450 other buildings damaged. 152 homes damaged in Throckmorton County. Storm moved east-northeastward.
Graham, Young County, Tex.	5	7:30 a.m.					10,000		Hail and rain	May have been a continuation of Stamford-Woodson storm.
Henrietta, Clay County, Tex.	5	8:30 a.m.			0	0	1,500	0	Tornado, wind, rain, and hail	Tornado moving northeastward damaged 2 barns.
Bowie, Montague County, Tex.	5	8:50 a.m.							Hail	Number of buildings damaged; plate-glass windows broken.
Montgomery, Scott, and Yell Counties, Ark.	5	6 p.m.	4	*11/2			32,000		Hail, wind, and rain	Damage to timber.
Independence, Jackson, Poinsett, and Mississippi Counties, Ark.	5	6:30-8p.m.	80	*12		1	435,000	50,000	Hail, wind, rain, and electrical	Independence County, hail caused losses estimated at $50,000 to crops and $75,000 to other property in Huff, Rosie, and Oil Trough areas. In Jackson County property losses as result of hail estimated at $250,000. 1 person injured at Newport by broken glass. In Poinsett County losses amounted to several thousand dollars by hail and wind in Harrisburg area. In Marked Tree-Trumann-Lepanto area losses to property estimated at $50,000. In southern Mississippi County, County Agent estimated wind losses at $60,000 Total losses, by hail to crops $50,000, to property $250,000; by wind to property $185,000. Widespread area of damage, together with pictures and descriptions in newsclippings indicate only straight wind, not tornado. Storm moved eastward.
Aquilla to Hubbard, McLennan and Hill Counties, Tex.	5	10:18 p.m.	25	*4			500,000		Rain and hail	Heavy damage to roofs and windows. Storm moved eastward.
Graham, Jackson, and Haywood Counties, N.C.	6	Early a.m.					4,000	10,000	Electrical and hail	Hail damaged crops. Lightning damaged large transformer.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Collinsville, Grayson County, Tex.	6	2:20 a.m.	6		0	0			Tornado (suspected) wind, rain, hail, and electrical	May be beginning of Sherman storm. Moved northeastward. Trees uprooted, and barns and garages blown down.
Sherman, Bonham, and Dodd City, Grayson and Fannin Counties, Tex.	6	2:30 a.m.	30	*21/2	1	44	$2,750,000	$ 100,000	Tornado, wind, rain, hail, and electrical	Heaviest damage near Sherman. 44 injuries reported in Grayson County by Red Cross. Trailer lifted over 5-foot stack of pipe. Storm moved eastward.
Sheridan and Shiloh, Grant County, Ark.	6	2:30 a.m.				1	Considerable	Minor	Hail, wind, rain, and electrical	Considerable damage in Sheridan area where roofs, automobiles, gardens, and crops damaged. House and barn damaged by wind at Shiloh (7 miles south of Sheridan). 1 home struck by lightning near Sheridan, setting fire to furnishings, and indirectly responsible for 1 injury.
Antelope to Newport, Clay and Jack Counties, Tex.	6	2:45 a.m.	25	* 8	0	7	80,000	1,800	Tornado, wind, rain, hail, and electrical	Storm moved east-northeastward. Includes damage at Shannon, Postoak, and Buffalo Springs.
Linden (9 miles north of), Cass County, Tex.	6	4 a.m.		100	0	2	1,000	0	Tornado (suspected), rain, and electrical	2 women struck by lightning. House and garage damaged. Stack of pipe picked up. Storm moved northeastward.
Era, Valley View, and Gainesville (5 miles south of), Cooke County, Tex.	6	4:20 a.m.	16		0	0	123,000	0	Tornado, wind, rain, hail, and electrical	Red Cross reported 48 homes and 52 other buildings damaged. 500-barrel oil tank carried about 100 feet; steel silo crumpled near Gainesville. Storm moved east-northeastward.
Sanger, Pilot Point, and Van Alstyne, Denton and Grayson Counties, Tex.	6	4:30 a.m.	35	*1	0	1	50,000	0	Tornado, wind, rain, hail, and electrical	Storm moved east-northeastward. Red Cross reported 75 homes damaged in Denton County. Steel power poles snapped.
Sulphur Bluff to Hagansport, Hopkins and Franklin Counties, Tex.	6	7 a.m.	10		0	0			Tornado (suspected), wind, and hail	3 barns destroyed; some houses damaged. Storm moved eastward.
Fort Lawn area, Chester County, S. C.	6	1:20 p.m.	1 1/2	3,000	0	0	3,000	1,000	Tornado, wind, hail, rain, and electrical	Tornado appeared in general squall area that moved across northern South Carolina. Actual tornado appeared to skip along, and at times not touching ground. Area of destruction caused by accompanying hail was 3,000 yards wide; while funnel itself about 500 yards wide. Storm moved eastward.
Mira Loma, Riverside County, Calif.	6	1:30 p.m.	1	50	0	0	400		Whirlwind	Formed over small farming community. Funnel observed. No wind until funnel hit. Concrete roof tiles picked up by wind. Storm moved southeastward.
Berry, Fayette County, Ala.	6	5:30-6 p.m.	2 1/2	* 2			20,000	Slight	Wind, rain, hail, and electrical	Hail damage $2,000, mostly to greenhouses. Stones diameter of 25 cent coins. $18,000 wind damage to roofs, weak buildings, and timber. Storm moved northeastward.
Altoona, Etowah County, Ala.	6	6:16 p.m.	5	* 1			25,000		Wind, rain, hail, and electrical	Damage mostly to roofs, weakly-constructed buildings, and trees.
Eutaw, Greene County, Ala.	6	6:30 p.m.	2	1,800			20,000		Wind, rain, hail, and electrical	Damage to roofs, weak buildings, trees, and telephone poles.
Birmingham, Ala.	6	6:45 p.m.					3,000		Wind, rain, hail, and electrical	Wind damage to trees, windows, and powerlines. Hailstones up to 1 1/2 inches in diameter in Hueytown and Bessemer.
Chilton County (southwestern portion), Ala.	6	7-8 p.m.	10	* 6			10,000	10,000	Rain, hail, and electrical	Hailstones up to "size of baseballs." Property damage due to hail and heavy rain.
Good Water, Coosa County, Ala.	6	7:40 p.m.					20,000		Hail, rain, and electrical	Damage mostly to roofs by hail.
Spalding and Lamar Counties, Ga.	6	9:15 p.m.					5,000	500	Hail and rain	Hail overspread Spalding County south of Griffin and into extreme northern Lamar County. Size of hail over much of the total 50-square mile area small, but over about 5-square miles, in and around Orchard Hill along Spalding-Lamar County line, hail as large as golf balls or hens' eggs. Numerous house roofs damaged, some substantially, and some windows broken out, with other miscellaneous damages. A few peach trees in some orchards badly enough hurt to require digging up and replacing. Storm moved eastward.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Talco to Mt. Pleasant, Titus County, Tex.	6								Hail	Red Cross reported 75 homes and 50 other buildings damaged. Storm moved southward.
	6									Minor storms also reported at Hope, Ark.; in northeastern Colorado; near Greer, S.C.; and in northern South Carolina; and near Muenster, Tex.
Timmonsville, Florence County, S.C.	7	Early a.m.					$40,000		Rain and electrical	Timmonsville upholstering plant destroyed by lightning.
Arlington, Fla.	7	4:15 p.m.				2			Electrical and rain	Man injured by lightning while constructing house.
Thomaston (3 miles east-northeast of), De Witt County, Tex.	10	2:30 a.m.					20,000		Electrical and rain	Several oil storage tanks destroyed by lightning.
Salina, Saline County, Kans.	10	2:48 p.m.			0	0	0	0	Tornado (suspected)	Funnel aloft observed briefly; moved north-northeastward.
Ensley, Escambia County, Fla.	10	8:45 p.m.	5	175	0	0	5,000	0	Tornado and rain	Demolished house and damaged several others. Storm moved north-northeastward.
Caldwell, Catawba, Madison, Surry, and Yancey Counties, N.C.	11	Afternoon					300,000	$10,000	Hail and electrical	Hail damaged crops, roofs, windows, and autos over large area; egg-size stones reported. Power and communication lines damaged by lightning.
Leesburg, Fla.	11	6 p.m.			1	1			Electrical	Lightning struck 2 persons in small boat on Lake Griffin.
	11									Minor storms also reported in Spartanburg County, S.C.; and in Christian County, Ky.
Colorado eastern portion	11-12				1	20	100,000	200,000	Tornado, wind, rain, hail, snow, and dust	Mostly straight-line blow, except for tornado characteristics in extreme northeastern Colorado. Deep snow drifts over northern section blocked roads and highways. In southern area winds up to 75 m.p.h., and some scattered hail damaged trees, transmission lines, buildings, radio and TV towers and antennas. Small tornado at Otis on 12th caused over $10,000 damage to trees and buildings. 1 person killed and about 20 injured in vicinity of Pueblo and Las Animas. Storm moved southeastward.
	11-12									Minor storms also reported at Madrid and in western Panhandle, Nebraska; and in extreme southeastern Wyoming.
Dublin, Erath County, Tex.	12	12:10 a.m.	16	*5 1/2			300,000	Slight	Hail, wind, and rain	Principal damage to roofs of residences; possibly 1,000 homes damaged. Storm moved northeastward.
College Hill, Miller County, Ark.	12	4 a.m.	1/10	50	0	0	10,000	0	Tornado (suspected), wind, rain, hail, and electrical	May have been only straight wind, but because of limited path and suddenness with which it struck and only short duration, it was probably tornado. 1 house demolished, and about a dozen others damaged.
Moscow, Jefferson County, Ark.	12	8 a.m.	Short	Narrow	0	0	5,000	0	Tornado (suspected), wind, rain, and hail	Witness said dark, funnel-shaped cloud dipped down momentarily and "it was all over in a hurry."
Sherrill (near), Jefferson County, Ark.	12	8 a.m.	Short	Narrow	1		1,000		Wind and rain	House blown down, person inside killed.
Hearne, Robertson County, Tex.	12	9:47 a.m.			0	0	0	0	Tornado (suspected)	Funnel reported trailing from cloud, probably never touched ground.
Dime Box, Lee County, Tex.	12	10:35 a.m.			0	0	0	0	Tornado (suspected) rain, hail, and electrical	Funnel reported not reaching ground; moved northeastward.
Frankston, Anderson County, Tex.	12	11:30 a.m.	6	200	0	7	80,000	0	Tornado, rain, and hail	Tornado moving northeastward destroyed 5 homes and damaged 63, with 37 receiving major damage.
Latexo (1mile east of), Houston County, Tex.	12	11:55 a.m.			0	0		0	Tornado (suspected)	Destroyed several barns, a farmhouse, and office of rodeo grounds. Storm moved northeastward.
Rusk (3miles southeast of), Tex.	12	12:15 p.m.		50	0	0	800	0	Tornado (suspected), wind, and rain	Wrecked garage, chickenhouse, and barn. Red Cross reported 16 homes damaged. Storm moved northeastward.
Vicksburg, Miss.	12	12:30 p.m.	12	*1			10,000		Wind and rain	Trees uprooted, hanger door crushed in, and drive-in screen toppled. Storm moved north-northeastward.
Jetmore, Hodgeman County, Kans.	12	2 p.m.	5	*4	0	0	600	0	Tornado, wind, rain, and hail	Numerous small funnels observed to west of Jetmore, moving south-southeastward about 30 minutes before main storm. Dimensions of path of principal funnel which touched ground and moved south-southwestward not established. It was preceded by damaging hail and followed by heavy rain. Only a few small buildings moved by wind.
Daviess, County, Ky.	12	2:05 p.m.					10,000		Wind and rain	Winds of 55 to 60 m.p.h., accompanied by heavy rain toppled powerlines, damaged roofs, and uprooted trees. Drive-in theatre screen blown down and car damaged.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Rockport, Spencer County, Ind.	12	Afternoon					$25,000		Wind	Large, outdoor-theater screen blown over; and powerlines downed, with damage to homes and automobiles by falling trees. Storm moved eastward.
Indianapolis, Ind.	12	5:15 p.m.					5,000		Wind, rain, and electrical	Wind estimated at 70 to 80 m.p.h., blew out plate-glass window, damaged creamery, and restaurant, and downed a few trees.
Simpson, Smith, and Jasper Counties, Miss.	12	6-8 p.m.	60		0	0	36,000	Slight	Tornado (suspected), wind, rain, and hail	Developed on squall line and moved east-northeastward not striking any large towns; moved south of White Oak and north of Paulding.
Lincoln, Lawrence, Jefferson Davis, Covington, Jones, and Wayne Counties, Miss.	12	6:30-10:45 p.m.	120	Narrow	0	0	183,000	$0	Tornado (suspected), wind, and rain	Suspected tornado moving east-northeastward destroyed 44 homes and buildings and damaged 185. Path apparently narrow, missing larger towns; heaviest damage in Jones County where 30 buildings destroyed and 121 damaged. Actual path not known as only report from Waynesboro which gave location as 6 miles north of town at 10:45 p.m.
Trent, Taylor County, Tex.	12	7-8 p.m.			0	0	0	0	Tornado (suspected)	West Texas Utilities Company at Abilene reported tornado; no further details.
	12									Minor storms also reported in Lowndes County, Ala.; near Prattsville and Hatfield, at Noble Lake, and in Ouachita County, Ark.; Effingham, Marion, Jefferson, and Franklin Counties, Ill.; Oakland City and near Bedford, Ind.; Hamilton, Agenda, and in southwestern Neosho County, Kans.; in northern Kentucky; Hernando and Aberdeen, Miss.; Lafayette County, Mo.; and in western Washington.
Eutaw, Greene County, Ala.	13	Early a.m.					15,000		Wind, rain, and electrical	Damage when wind exposed veneer factory to rain and did miscellaneous damage to roofs and sheds.
Monette (4 miles southeast of), Craighead County, Ark.	13	12:25 a.m.	Short	Narrow	0	0	500	0	Tornado (suspected), wind, and rain	Large implement building damaged.
Muscle Shoals, Sheffield, and Tuscumbia, Ala.	13	1:30 a.m.				3	200,000		Wind, rain, and electrical	Damage widespread over 3-city area to roofs, trees, and powerlines. House trailer turned over, slightly injuring 3.
Benton County, Ark.	13	11-11:30 a.m.						20,000	Hail	Hail 1/2 inch in diameter covered area of approximately 50 square miles, damaging trees, strawberries, and small grains.
Fayette, Fayette County, Ala.	13	5:30 p.m.					125,000		Wind, rain, and electrical	Damage widespread over town.
Columbiana, Shelby County, Ala.	13	7:30 p.m.						Slight	Hail, wind, rain, and electrical	Hailstones reported size of hens' eggs.
Jesup, Wayne County, Ga.	13	7:50 p.m.	Short	600	0	0	4,000	0	Tornado, wind, rain, hail, and electrical	Funnel-like cloud, reported to have been seen, apparently did not quite reach ground, except at one point, where motor company suffered moderate to heavy damage and several homes shaken without appreciable damage. Light hail and a brief shower accompanied storm, with thunder and lightning. Some residents thought they heard roaring sound that was likened to moving freight train. Storm moved northward.
Jasper, Richland, Jackson, and Williamson Counties, Ill.	13	8-9 p.m.					25,000		Thunderstorm	Damage at scattered points with most damage at Olney, where fruit store demolished and adjacent residences damaged. Storm moved northeastward.
Ellington, Reynolds County, Mo.	13	8:45 p.m.		*15			3,000		Hail and rain	Some hailstones 3/4 inch in diameter. Storm moved southeastward.
Escambia County, Fla.	13						200,000	55,000	Rain	Estimated property damage was to bridges and highways. Additional damage to buildings and contents due to flooding.
Shelby (near), Cleveland County, N.C.	13				1				Electrical	Lightning killed child.
	13									Minor storms also reported at Vernon and Jasper, Ala.; Batesville, Ark.; Fitzgerald, Ga.; Spartanburg County, S.C.; and near Zanesville, Ohio.
Rochelle (2 miles north of), Wilcox County, Ga.	14	5:15 a.m.	1/2	100	0	0	1,500	0	Tornado (suspected), wind, rain, and electrical	Storm knocked over a few small tenant houses and downed a few trees and utility lines. Witnesses declared storm to be "real tornado," but available facts do not give adequate proof of tornadic qualities other than movement of storm over narrow width and short distance on ground, suggestive of funnel dipping briefly to earth and then lifting. Storm moved eastward or east-northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Florence, Florence County, S.C.	14	9:30 a.m.	10	*1		1	$4,000		Wind, rain, hail, and electrical	Minor damage also reported at Nichols and at Branchville. Storm moved eastward.
Mc Alpin, Suwannee County, Fla.	14	2:30 p.m.			0	0	0	$ 0	Tornado, rain, and electrical	Tornado cloud reported to have accompanied thunderstorm. Tornado cloud observed some distance from witness and report based on visual sense alone. No means of confirming or denying existence of tornado cloud. Storm moved northeastward.
Columbus and Robeson Counties, N.C.	14				0	0	8,000		Wind and tornadoes (possible)	2 separate cases of isolated tobacco barns completely destroyed in adjoining counties, one at Lumberton and one at Cerro Gordo. Some powerline damage.
	14									Minor storms also reported at Vicksburg, Miss.; and Fairmont and near Baxter, W. Va.
	16									Minor storm reported at Miami, Fla.
St. Leonard (near), Md.	17	1 p.m.			2				Wind	Boat capsized, drowning 2 men.
Durham, Hertford, and Surry Counties, N.C.	17	Evening					8,000	3,500	Electrical and hail	Widespread thunderstorms. Lightning set fire to a number of buildings. Hail damaged crops.
Mitchell, Davison County, S. Dak.	17	Evening					30,000		Rain and hail	Heavy downpour of rain flooded basements and clogged sewers in city. Considerable small hail, reported 2 inches on ground at one time. Rainfall totaled 3.29 inches.
	17									Minor storm also reported in South Dakota, eastern portion
Prairie du Chien and Lynxville, Crawford County, Wis.	18	1 a.m.			0	0	25,000	0	Tornado (suspected), and wind	50-foot barn lifted off foundation and demolished nea Prairie du Chien. Near Lynxville farm buildings demolished. Minor damage to utility lines, TV aerials, homes, and cars. Storm moved north-northeastward.
Hersey (1mile south of), St. Croix County, Wis.	18	2 a.m.							Electrical	Barn and 27 head of cattle destroyed by lightning.
De Pere, Brown County, Wis.	18	10 a.m.				1	2,500		Wind	Tree, 2 feet in diameter, blown over on moving car.
Crandon, Argonne, and Laona, Forest County, Wis.	18	10:30 a.m.							Wind, rain, and electrical	Barn set afire by lightning at Crandon, loss $20,000. 80-foot TV tower hit and destroyed by lightning. Many TV aerials blown down at Crandon, Laona, and Argonne. Storm moved eastward.
Baraboo (near), Sauk County, Wis.	18	11 a.m.				1			Hail, rain, and electrical	Woman injured in fall caused by hailstones on ground. Storm moved eastward.
Richland Center, Richland County, Wis.	18	4 p.m.			0	0			Tornado (suspected), wind, rain, hail, and electrical	Twisted wreckage of barn and milkhouse indicated possible tornado. Vacant trailer house also destroyed. Hail fell at scattered points in Richland County. Damage light even though some hail large as golf balls. Storm moved eastward.
Dodgeville, Ridgeway, and Barneveld, Iowa County, Wis.	18	4 p.m.	13		0	0		0	Tornado (suspected), Wind, rain, hail, and electrical	Heavy thunderstorm over Dodgeville with scattered hail, size resembling cupcakes. Farmer 5 miles southwest of Dodgeville heard unusual sounding wind while in barn, looked up saw sky then barn roof fell in. 20 head of cattle trapped. Southwest of Ridgeway barn destroyed and parts of farm home ripped off. Trees twisted and uprooted. Heavy thunder set off prepared dynamite charge in rock quarry near Barneveld, damaging rock crusher. Storm moved eastward.
Belleville and vicinity, Dane County, Wis.	18	5 p.m.			0	0	250,000	0	Tornado, wind, rain, hail, and electrical	Tornado destroyed barns; twisted and uprooted hundreds of trees, doing heavy damage to buildings, automobile machinery, and utility lines. 1 man reported seeing "twister," then his barn was demolished. School roof blew off; rain did $10,000 damage to school interior. In 4 townships near Belleville 10 to 15 barns blown down, many smaller buildings damaged. Roof of 1 barn found intact 1/2 mile away. Winds and hail caused scattered property damage. Storm moved east-southeastward.
Wanatah, La Porte County, Ind.	18	5 p.m.				1	500		Hail	Hail measuring up to 2 1/2 inches in diameter broke a number of windows and damaged roofs. Storm moved northeastward.
Kelton, Wheeler County, Tex.	18	6:45 p.m.	10	100	0	0	7,000	0	Tornado (suspected), wind, rain, and hail	Empty house destroyed; other buildings damaged. Storm moved northeastward.

See footnotes at end of table.

able 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
nark (6 miles orthwest of), arroll Coun-y, Ill.	18	6:45 p.m.	8	75	0	0	$200,000	$ 0	Tornado and wind	4 farms completely demolished, other buildings damaged. Car containing 2 people carried 100 feet and dropped right side up without damage to occupants. Storm moved eastward.
art Prairie nd vicinity, alworth ounty, Wis.	18	7 p.m.	4		0	1		0	Tornado, wind, rain, hail, and electrical	Several farmers saw swirling, dark, funnel-shaped cloud. 3 barns and 4 other buildings destroyed. Windows sucked out of farm home. Cottage near lake destroyed. 4 rowboats exploded into kindling wood. Trees and utility poles twisted and uprooted, doing considerable damage to homes, cars, and utility service. Storm moved eastward.
ne, Du Page, nd Cook ounties, Ill.	18	9 p.m.	13	*2 1/2	0	3	150,000	0	Tornadoes, wind, and rain	Believed to be a number of small tornadoes. Damage to airplanes $25,000; damage in St. Charles, Des Plaines, Lincolnwood, Park Ridge, and Evanston, all in Greater Chicago area. Storm moved eastward.
gham, Eaton, onia, and linton Coun-ies, Mich.	18	9:30-midnight	30	*15		1	60,000		Wind, rain, and electrical	Winds blew down theater wall in Lansing and large barn near Mulliken, also damaged several other buildings. Many utility lines downed. Winds reached nearly 80 m.p.h., in gusts at Lansing. Storm moved eastward.
. Porte, La orte County, nd.	18	11:15 p.m.					2,000		Hail	Hail as large as hens' eggs broke windows, damaged roofs, and dented automobiles.
nton, Liberty, cotia, and utts, Craw-ord County, o.	18	P.m.					Considerable		Hail	Some stones as large as golf balls; many roofs damaged.
lkhart, Elk-art County, nd.	18	Evening					33,000		Hail	Hail broke about 10,000 to 12,000 panes of glass, most of them in greenhouses; damaged roofs and dented automobiles.
tah	18					1	Light		Winds	Winds up to about 50 m.p.h., blew down a few small buildings on shores of Great Salt Lake, and blew up dust over State. Storm moved northward.
	18									Minor storms also reported in Ohio and at Cannon Falls, Minn.
olorado, entral portion	19	All day	200	*70			Light	Moderate	Wind and dust	Blowing dust over area immediately east of Continental Divide eroded soils, further damaged crops, reduced visibility to near zero in some localities, and slowed transportation. Storm moved southeastward.
wa, entire tate	19	All day			1		100,900		Rain, hail, wind, and electrical	Damaged buildings, cars, and public utilities at widely scattered locations throughout State. Man killed when lightning struck farm building.
nsas, west-rn portion	19	Daytime							Wind and dust	Most serious erosion and highest wind speeds in southwest. At Garden City winds averaged 45 m.p.h., for 8 hours and reached gust speeds of 60 to 70 m.p.h., for about 4 hours.
gle Butte (5 iles north-ast of), Dewey ounty, S. Dak.	19	2 p.m.		30	0	0	Minor	0	Tornado (suspected), or dust devil and wind	Small tornado developed in local area; moved northward. Damage confined to 1 farmstead.
ail City (8 iles west of), orson County, .Dak.	19	2:45-2:50 p.m.	7	50	0	2	5,500	0	Tornado, wind, rain, and hail	Funnel cloud damaged 2 farms. The 2 injured were in government grain bin which was lifted into air. Storm moved north-northeastward.
ail City (3 iles west of), orson County, . Dak.	19	2:50-3p.m.	4	50	0	0	1,300	0	Tornado, wind, rain, and hail	Small tornado moving northwestward hit 2 farmsteads.
aska, Wal-orth County, . Dak.	19	Midafternoon	5		0	0		0	Tornado, wind, rain, and hail	Major damage to 2 farms, minor damage to 2 additional farms. Storm moved northward.
ttysburg (8 iles southeast f), Potter ounty, S. Dak.	19	Midafternoon	4	100	0	0	6,000	0	Tornado, wind, rain, hail, and electrical	Damage confined to several farms. Storm moved north-northeastward.
ttysburg near), Potter ounty, S.Dak.	19	Midafternoon	11	30-100	0	0	4,300	0	Tornado, wind, rain, and hail	Small buildings, telephone poles, fences, and barns on 3 farmsteads damaged. Storm moved north-northeastward.
braska, outhwestern ortion	19	Afternoon				2	Several hundred		Dust	4 traffic accidents caused by very poor visibility.
ttysburg (8 iles west of), otter County, . Dak.	19	4:08-4:35 p.m.	20	20-30	0	0	6,500	0	Tornadoes, wind, rain, and hail	Chaotic and turbulent cloud conditions. Additional funnel clouds as well as large dust devils in area. Damage confined to 2 farmsteads. Funnel seen at 4:35 p.m. Storm moved north-northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Cambria and Indiana Counties (southern portions), Pa.	19	4:30 p.m.					$9,500		Wind, rain, and hail	Thunderstorms accompanied by violent winds, heavy rains, and hail cut narrow path through area, destroying 1 barn and a garage, unroofing another barn, and uprooting numerous trees. Storm moved southeastward.
Sedgwick and Butler Counties, Kans.	19	5-9 p.m.					25,000		Wind and electrical	Lightning strikes set 2 oil-tank fires and did considerable other damage.
Jackson and Dubuque Counties, Iowa	19	6 p.m.	6	50	0	0	300,000	0	Tornado, wind, and hail	Tornado 1 1/2 miles south of Zwingle, demolished several farm buildings. Strong winds and hail associated with thundersqualls damaged other buildings. $13,500 damage by tornado included in damage figure. Storm moved eastward.
Clear Lake and Richland Townships, Edmunds County, S. Dak.	19	6-6:10 p.m.	8	100	0	0		0	Tornado	Tornado moving north-northwestward damaged buildings on 5 farmsteads; 1 farmstead practically demolished.
Woodbury and Sioux Counties, Iowa	19	7:30 p.m.					10,000		Wind, rain, and hail	Severe thunderstorm crossed eastern edge of Sioux City, damaging buildings and injuring livestock. Storm moved northeastward.
Tyler, Lincoln County, Minn.	19	8:30 p.m.	9	80	0	0	100,000	0	Tornado, wind, rain, hail, and electrical	No funnel observed. Tornado skipped. First hit village of Danebord, moved through Tyler then northward into Lake Stay Township. Considerable damage to homes, buildings, barns, automobiles, and machinery due to high winds, falling trees, and twisted wreckage. 2x4 board driven through wall of home. Garage lifted off its foundation, car within remained on ground.
Overbrook, Osage County, Kans.	19	8:30 p.m.			0	0	10,400	0	Tornado (suspected), and wind	Massive stone barn demolished. Storm moved northeastward.
Richland Township, De Kalb County, Ind.	19	9 p.m.					10,000		Wind	Barn and brooder house destroyed; 21 sheep killed.
Spencer, Clay County, Iowa	19	9 p.m.	2 1/2	100	0	0	3,000	0	Tornado	Damaged farm building south of Spencer and in southeast corner of city. Storm moved north-northeastward.
New Hope and Highland Townships, Brown County, S. Dak.	19		4	50	0	0	3,400	0	Tornado, rain, and hail	Tornado moving northward damaged buildings on 4 farmsteads.
New Jersey, northeastern portion	19					1	15,000		Electrical	Several homes reported struck by lightning in Morris and Somerset Counties, but not destroyed. A fireman in that area injured severely by fallen electric cable. 2 barns struck by lightning and destroyed in eastern Middlesex County, valued at $4,000 and $8,000. 500-pound granite cornice torn by lightning from a 5-story apartment in Weehawken.
	19									Minor storm also reported in Bureau County, Ill.
North Dakota, entire State	19-20	Noon 19th-noon 20th	500	*100			100,000	Little	Wind	Low pressure area moved over southwest at noon on 19th, deepened as it crossed State, reaching northeast at noon on 20th. Lowest sea-level pressure at Bismarck was 28.82 inches. Hundreds of poles broken off, some buildings damaged, many TV antennas broken, etc.
South Dakota, central and eastern portions	19-20					2	150,000		Wind and dust	General high winds over most of State. Wind, reaching speeds of 55 m.p.h., from southwest to west, caused considerable soil erosion and damaged some grain fields. West wind, particularly, did most damage. Many small buildings, etc., toppled or damaged.
Beardsley, Big Stone County, Minn.	20	8:30 a.m.					75,000		Wind and dust	3 barns and a number of outbuildings demolished. Homes and buildings damaged, poles and wires downed, trees uprooted. Automobile reported blown off of road. Seed blown out of ground. Storm moved northeastward.
China Spring to Buffalo, McLennan, Limestone, Freestone, and Leon Counties, Tex.	20	2:45 p.m.	75	*2-10	1		250,000	35,000	Wind, rain, hail, and electrical	Roofs of school buildings in Buffalo heavily damaged, at least 375 windowpanes broken; barns and residences damaged; crops complete loss. Death occurred near Waco, due to lightning strike. Storm moved east-southeastward.
Corsicana, Navarro County, Tex.	20	P.m.				1			Electrical	Lightning knocked man unconscious.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
	20									Minor storm also reported in Ohio.
/hitehall, Jefferson County, Ark.	21	1:41 a.m.	1/2	80	1	2	$10,000	$ 0	Tornado	House demolished, killing 1 and injuring 2 occupants. Barns and garages damaged, trees uprooted. Tornado moved east-northeastward.
elma, Dallas County, Ala.	21	8:10 a.m.	1 1/2	50	0	1	20,000	0	Tornado (suspected), and wind	Path not continuous, jumped about a mile; traveled east-northeastward. Telephone poles downed; 1 building destroyed.
oddridge Township, Miller County, Ark.	21	4:15-5 p.m.	3	*1			12,000	25,000	Hail and rain	Hail almost knee-deep in ditches; 18 hours after hail fell, stones as large as golf balls picked up in drifts. Practically every house in Doddridge suffered roof damage. Much glass broken; cars dented badly.
lain Dealing to Haughton, Bossier Parish, La.	21	5-6 p.m.	30	*10			50,000	50,000	Hail, wind, and rain	Most wind damage in Wardview community northeast of Plain Dealing, but hail damage extensive in Plain Dealing southward to Haughton. Storm moved south-southeastward.
ackson, Hinds County, Miss.	21	5:55 p.m.			0	0	500	0	Tornado (suspected), wind, and rain	Probably tornado aloft; toppled pine trees on hillside 80 to 100 feet high. Roaring noise heard. Trees bent over at 45° angle. Storm moved south-southeastward.
undell, Phillips County, Ark.	21		3	*1 1/2		1	Considerable		Wind, rain, hail, and electrical	
	21									Minor storms also reported at Greensboro, Ala., Benton, Ark.; Camp Gordon, Ga.; Avon, Miss.; in Ohio; and in Fayette, Blair, and Centre Counties, Pennsylvania.
ort Huachuca, Ariz.	22	10:57 a.m. -5 p.m.					10,000		Wind	Cold front passage accompanied by strong winds. Peak gust of 66 m.p.h., recorded. Storm moved north-northeastward.
elso and Chaffee, Scott County, Mo.	22	2 p.m.					75,000	Considerable	Hail	Some stones size of golf balls; many roofs damaged and gardens and wheat fields injured. Storm moved southeastward.
utesville, Bollinger County, Mo.	22	2:45 p.m.	1/4	50	0	0	20,000	2,000	Tornado and hail	1 home destroyed and 24 damaged; 8 other buildings destroyed and 8 damaged. Storm moved southeastward.
cott, Cape Girardeau, and Mississippi Counties, Mo.	22	Afternoon	50				Considerable	Considerable	Hail, wind, and electrical	
elta (1 1/2 miles northwest of) to Welsh, Cape Girardeau County, Mo.	22	4 p.m.	4	50	0	1	60,000	500	Tornado, rain, and hail	Tornado moving southward destroyed 3 homes and damaged 8 others; also destroyed 13 other buildings and damaged 13.
t. John, Barnes Ridge, and La Forge areas, New Madrid County, Mo.	22	4-5 p.m.			0	0	110,000	0	Tornado and hail	Many buildings damaged by wind and hail. Tornado damage $100,000, hail $10,000. Storm moved southeastward.
iggers, Randolph County, Ark.	22	5 p.m.	1	200	0	0	6,000	0	Tornado, rain, and hail	American Red Cross reported 10 homes damaged; 4 other buildings destroyed and 4 damaged. Storm moved northeastward.
ikeston, Scott County, Mo.	22	5:10 p.m.			0	0	50,000	0	Tornado and hail	48 homes and 10 other buildings suffered damage. Storm moved northeastward.
reckenridge, Stephens County, Tex.	22	6 p.m.	6	*1/2		2	200,000	25,000	Hail and rain	Damaged roofs, greenhouses, and cars. 2 persons injured when hit on head by hail. Storm moved north-northeastward.
raham to Loving, Young County, Tex.	22	7 p.m.	12						Hail, rain, and electrical	Damage to roofs and crops reported heavy.
owley County (southwestern portion), Kan.	22	9 p.m.	15	*3			300	5,000	Hail, wind, and electrical	Hail ranging up to 1 inch in diameter. Storm moved northeastward.
ast Prairie (near) Mississippi County, Mo.	22	9 p.m.			0	0	500	0	Tornado (suspected) rain, and hail	5 buildings damaged.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Graham, Young County, Tex.	22	11 p.m.					$15,000		Wind, rain, hail, and electrical	Hailstones as large as hens' eggs.
Fort Phantom Hill Lake (15 miles north of Abilene), Tex.	22	11:25 p.m.			0	0	0	$ 0	Tornado (suspected)	Tornado reported over Fort Phantom Hill Lake (15 miles north of Abilene).
Bradshaw (4 miles south of), Runnels County, Tex.	22	11:25 p.m.			0	0	0	0	Tornado (suspected)	Funnel, sighted by railway crew, not touching ground.
Gravel Hill (near), Bollinger and Cape Girardeau Counties, Mo.	22				0	0	0	0	Tornadoes	3 funnel clouds seen, but did not hit ground.
	22									Minor storms also reported in Chicot County, Ark.; Sumner County, Kans.; near Blodgett, Bertand, Scopus, and Millersville, and in Stoddard, Mississippi; and Cape Girardeau Counties, Mo.
Colorado, eastern portion	22-23		225	*200			Light	Moderate	Wind and dust	Fresh to strong winds, reaching gale speeds of 70 m.p.h., further damaged crops and soils, and caused some property losses. Storm moved southeastward.
Kentucky, western portion	22-23						60,000	500	Wind, rain, hail, and electrical	Winds tore roofs from homes, damaged chimneys, uprooted trees, and damaged TV antennas. Clover and alfalfa crops suffered some damage from rain and hail. Many sections of this area flooded by heavy rains.
Adams and Brown Counties, Ill.	23	2 a.m.	15		0	0	100,000	5,000	Tornado, rain, hail, and electrical	Storm moving east-southeastward caused heavy property damage in Clayton, Mt. Sterling, and Timewell.
Illinois, southwestern third	23	2:30 a.m.					200,000	50,000	Rain and hail	Widespread severe thunderstorms caused local damage in about 15 counties. Appreciable hail damage to crops in St. Clair County.
Kansas, western portion	23	Daytime							Wind and dust	Strongest winds and most serious soil erosion in southwest. Sustained winds of 45 to 58 m.p.h., over most of area, with such speeds persisting in southwest for 6 to 8 hours.
Iowa, western and southern portions	23	All day					40,650	0	Rain, wind, and electrical	Damage at numerous points throughout State, except in extreme northeast.
Gallatin (near) Sumner County, Tenn.	23	Early morning	10	300	0	0	100,000	Slight	Tornado	Tornado destroyed large barn on farm and blew down trees and damaged roofs on another. Following northeasterly course twister struck another farm, where it destroyed 1 large barn and seriously damaged another and killed 12 sheep. Many homes and outbuildings damaged and glass in local greenhouses riddled. Some hailstones noted near size of hens' eggs. In Nashville, cupola of Synagogue blown off.
Coin (2 1/2 miles south of), Page County, Iowa	23	1:10 p.m.	1 1/2	50	0	0	3,000	0	Tornado	Destroyed several farm buildings. Storm moved northeastward.
East Union and Isadora, Worth County, Mo.	23	1:30 p.m.	4	400	0	1	15,300	200	Tornado and rain	Tornado moved northeastward.
Tarkio (3 miles east of), Atchison County, Mo.	23	1:35 p.m.	2 1/2	100	0	0	15,000	0	Tornado, rain, hail, and electrical	Buildings exploded and scattered. Storm moved northward.
Tipton (near), Moniteau and Cooper Counties, Mo.	23	2:50 p.m.	8	*2			45,000	100,000	Hail, wind, rain, and electrical	1 building blown down. Some trees 2 feet in diameter blown down. Most damage by hail. Storm moved northeastward.
Gilliam (near), Saline County, Mo.	23	Afternoon					Moderate	Considerable	Hail	Some hailstones as large as hens' eggs. Some roofs damaged, windowpanes broken, and some auto tops also damaged. Several strawberry beds destroyed, 1 valued at $2,000 according to press reports.
Williamsburg (east of), Calloway County, Mo.	23	4 p.m.					Several hundred dollars	Slight	Hail, wind, and electrical	Some hailstones size of golf balls; many roofs damaged by hail. Barn blown down by wind.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Benton to south of Diagonal, Ringgold County, Iowa	23	4 p.m.	5	440	0	0	$20,000	$ 0	Tornado, wind, rain, and hail	A number of buildings destroyed on about a dozen farms. Tornado moved northeastward.
Wellsville and Montgomery City, Montgomery County, Mo.	23	4:15 p.m.	10	100	0	0	25,000	300	Tornado, rain, and hail	Most damage to barns and other buildings, rather than residences. Storm moved northwestward.
Between Olney and Silex, Lincoln County, Mo.	23	5:30 p.m.			0	0	Several thousand dollars	0	Tornado (suspected)	
Durham, Hancock County, Ill.	23	7:30 p.m.	7	Narrow	0	0	20,000	1,000	Tornado, rain, and hail	Small tornado moved northeastward; damage confined to rural community.
Pine Bluff-Sherrill area, Jefferson County, Ark.	23	7:30 p.m.					Considerable		Wind, rain, and hail	Several buildings damaged. Believe term "rip wind" would fit this storm very well.
Clarendon, Monroe County, Ark.	23	8 p.m.	1				25,000		Wind, rain, and electrical	Storm moved north-northeastward. Believe term "rip wind" would fit this storm very well.
Monticello, Drew County, Ark.	23	8 p.m.					7,500	2,500	Wind, rain, hail, and electrical	Crop damage by hail, property damage by wind.
Campbell (4 miles west of), Dunklin County, Mo.	23	8 p.m.	Short	Narrow	0	0	5,000	0	Tornado (suspected) and rain	Tool shed destroyed. Combine and other farm equipment damaged. Tornado moved northeastward.
Dunklin County, Mo.	23	8 p.m.		Wide			25,000		Wind and rain	Over much of County. Storm moved northward.
Marmaduke, Greene County, Ark.	23	8:30 p.m.				1	11,000		Hail, wind, electrical, and rain	Hail and wind covered area of 15-square miles. $8,000 wind damage and $3,000 loss by lightning. Storm moved northeastward.
Illinois, southwestern half	23	9 p.m.-midnight			1	5	150,000	25,000	Wind, rain, and hail	Severe thunderstorms accompanied by damaging winds developed in Warren and Hancock Counties around 9 p.m. By 10 to 11 p.m., these storms moved into a number of communities in southwestern quarter of State. Boy Scout killed by falling tree at encampment on the banks of Mississippi 1 mile south of Hartford. Hail damage heavy in Pike County and property damage fairly extensive at Percy in Randolph County.
Wellsville (northeast of), Audrain County, Mo.	23	Evening			0	0	500	0	Tornado (suspected), rain, and hail	Damage mostly to buildings other than residences.
	23									Minor storms also reported near Windsor, Cape Girardeau, Wyaconda, Bethany, Pilot Grove, at Okta, Sikeston, and Chillicothe, Mo.; and near Waco and Gordon, Nebr.
Hermitage, Bradley County, Ark.	23-24	11:45 p.m.-12:30 a.m.	2	440			40,000	3,000	Wind, rain, and hail	Wind uprooted trees, blew roof and porch off 1 house, and damaged tomato plants. Hail fell over wide area, but caused little damage. Storm moved northeastward.
Richmond, Madison County, Ky.	24	3:45-4 a.m.	3	800	0	2	50,000	0	Tornado, wind, and rain	Damage largely confined to area around Eastern State College in Richmond. Hundreds of trees uprooted, TV antennas and chimneys blown down, a few homes damaged, and many windows broken. Storm moved northeastward.
Pine Grove to Falkville, Lawrence and Morgan Counties, Ala.	24	5:45 a.m.	12	200	5	20	100,000	500	Tornado	Crop loss consisted of small grain frazzled and shredded. Other losses included $1,700 of livestock. Tornado first reached ground about 4 miles west-northwest of Pine Grove in southeastern Lawrence County and lifted when barely reaching north-south highway #31 through Falkville, Morgan County, at a point just outside northeast town limits. No damage reported in first 4 miles of path other than timber. Storm moved across some ridges between 100 and 200 feet high north of Pine Grove. Remaining 8 miles of path across mostly level terrain. In this 8-mile stretch, path of destruction averaged near 200 yards wide, with slight widening trend and with scattered fallen trees on each side making total width about 4/10 mile, except in last mile where path widened rapidly and inside core became about as weak as outer limits, making path of only scattered fallen trees about 3/4 mile wide where lifting occurred. 2 houses about 700 yards apart on each side of path ruined,

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Pine Grove, Ala. (cond't)										but not leveled, in this last mile. Tornado ran along a few miles southeast of passing thunderstorm in which there was a moderately heavy shower of rain and some light hail. Eye witness who was between tornado and thunderstorm said tornado when approaching appeared to be separating from and running away from thunderstorm. This impression was probably due largely to perspective. No rain accompanied tornado. Fallen trees outside path of destruction thrown toward south on left, and toward northeast on right. Several eye witnesses had different impressions of color of storm, due to early morning sun giving different effects in different vantage points.
South Carolina, western portion	24	8 a.m.-4 p.m.	130	*100			$100,000	$100,000	Wind, rain, hail, and electrical	Area of intense activity across Greenville County through communities of Piedmont, Mauldin, and Simpsonville. In this area considerable hail damage to roofs, windows, etc., as well as crops. Another area of intense damage occurred from eastern Laurens County eastward through Union County to vicinity of Whitmire.
Bledsoe County, Tenn.	24	Early morning	5	300	0	0	50,000	Slight	Tornado, hail, and electrical	Tornado destroyed several farm buildings and damaged 10 homes.
North Carolina, most of State	24	11 a.m.-10 p.m.					500,000	350,000	Electrical, wind, and hail	Squall line crossing State caused numerous severe thunderstorms. Greatest damage in Anson, Mecklenburg, and Union Counties, in area adjoining an even more severely damaged section of South Carolina. Estimate of damage in Meckenburg County $100,000 to crops, $200,000 to property; Union County $100,000 to crops, $50,000 to property; Anson County $75,000 to crops, $1,000 to property. Additional scattered hail and wind damage throughout State. Storm moved eastward.
Henry to Lancaster Counties, Va.	24	1-5 p.m.	220	*2-15			375,000	45,000	Wind, rain, hail, and electrical	Duration of storm at any one place about 30 minutes. Principal property damage from wind was at Stanleytown where well over $100,000 damage done to furniture factory. Principal hail damage of around $75,000 done in Ottoman-Kilmarnock area. These areas at opposite ends of path of storm damage. In between damage of minor nature, but of considerable occurrence. Storm moved northeastward.
Cherokee and York Counties, S. C.	24	2-4 p.m.	50	*4			1,000,000	160,000	Wind, rain, hail, and electrical	Storm generated into squall line near Spartanburg and moved eastward through York County into North Carolina. This report covers only path of storm through South Carolina.
Kane, Du Page, and Cook Counties, Ill.	24	2:40-4:20 p.m.			0	0	0	0	Tornadoes	Funnel clouds aloft observed at Lemont at 2:40 p.m., Elmhurst at 4:05 p.m., and Aurora at 4:20 p.m. These locations are in Greater Chicago area.
Columbus, Ga.	24	3:45 p.m.							Wind, rain, and hail	In connection with line squall severe thunderstorm developed in Columbus, causing wind and hail damage at scattered points in downtown and residential sections. Most damage from gusty winds which must have exceeded peak speeds of 60 m.p.h.(WBAS Columbus reported a peak speed of 45 m.p.h., about 5 miles northeast of damaged area in Columbus). High winds blew down numerous trees or broke off large branches, causing several streets to be blocked temporarily; considerable damage to power and telephone lines and some to residences and other buildings, with moderate damages in residential section from hail measuring up to 3/4 inch in diameter.
Bibb, Jones, and Twiggs Counties, Ga.	24	4:54 p.m.			0	0	4,000	15,000	Wind, rain, and hail (possibly tornado)	High winds demolished drive-in movie screen in Macon. Moderate to heavy hail fell over parts of Macon and in scattered areas of Bibb County, also extending into Jones and Twiggs Counties. Damages from hail rather large to crops, but limited to about total of 10-square miles in several scattered areas. Several witnesses in Macon thought they heard roaring noise suggestive of tornado. Another witness in Sardis Church Road area reported seeing fast-moving cloud and hearing roaring sound at about 6:30 p.m., which is some time later than occurrence of damages from hail and wind. As far south as Dublin, several witnesses reported hearing "terrible roaring sound overhead". Storm moved eastward.
Lancaster, Chesterfield, and Marlboro Counties, S.C.	24	5-6 p.m.	55	*2	0	0	300,000	1,000,000	Tornado (suspected), wind, rain, hail, and electrical	Severe hailstorm moved eastward from Lancaster (western portion of County) through central portion of Chesterfield County ending in Marlboro County during afternoon. Path of destructive hail and wind averaged about 2 miles wide. From hail marks and wind damage, wind appeared to converge from both sides of hail path. At Cheraw, according to newspaper clippings, funnel may have been observed. Wind damage all along path of storm, with most wind damage reported at Cheraw; major wind damage appeared to be from westerly wind. Hail described by local residents as

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4--Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
South Carolina (Cont'd)										"worst ever experienced." Hail up to 3 inches in diameter reported near Cheraw while most of area reported a range from 1 to 2 inches. Roofing shingles cut to pieces, at some localities even tin roofs punctured, crops destroyed, windows broken, peach orchards either destroyed or severely injured with peach trees litterly peeled on one side. Vegetation generally defoliated. Forests, with evergreens including pines mostly stripped of leaves, were more barren than in winter. Large hail accumulations choked regular drainage from fields, causing considerable washing. Hail cover of several inches occurred in more severe portions of storm, with some sheltered hail accumulations persisting from week to 11 days after storm.
Kentucky, southern portion	24						$14,000		Wind, rain, and electrical	Barns unroofed or destroyed, power and phone lines damaged, trees felled, TV antennas blown down, and plate-glass windows broken. Frame school building destroyed by fire after supposedly having been hit by lightning. Heavy rain caused some flooding.
	24									Minor storms also reported at Atlanta, Ga.; Valparaiso, Ind.; Prince Frederick and Pocomoke City, Md.; Smithville, Miss.; at St. Louis and near Washington, Mo.; in Ohio; and at La Farge, Wis.
New England, southern coastal section	24-26								Wind and rain	High northeast winds plus high spring tides caused inundation of many low-lying highways and damage to seawall structure. High winds also disrupted power supply in several eastern Massachusetts towns as wires torn down by toppling limbs.
	26									Minor storm reported in Utah.
Colorado, eastern portion	27	All day	225	*200			Light	Heavy	Wind and dust	Duststorm as severe as any during past 20 to 30 years reduced visibility, interrupted transportation, caused traffic accidents, and eroded soils. Storm moved southeastward.
Sanger to Pilot Point, Denton County, Tex.	27	5 p.m.							Wind, rain, hail, and electrical	Hailstones as large as golf balls damaged buildings and crops.
McPherson (northeast of), McPherson County, Kans.	27	5:20 p.m.	8	100	0	0	25,000	$0	Tornado	Tornado moving northeastward damaged 6 farmsteads. All water sucked out of nearly dry pond. One of several tornadoes which developed nearly simultaneously along 130-mile line from Harper to northern Dickinson Counties.
Burrton, Harvey County, Kans.	27	5:30 p.m.	2		0	0	6,000	0	Tornado, rain, and hail	Tornado moving northeastward damaged 2 farmsteads. One of several tornadoes which developed nearly simultaneously along 130-mile line from Harper County to northern Dickinson County.
Salina (southeast of), Saline County, Kans.	27	5:30 p.m.	1/4		0	0	0	0	Tornado, rain, and electrical	Tornado traveled northeastward along river bottom before lifting. One of several tornadoes which developed nearly simultaneously along 130-mile line from Harper County to northern Dickinson County.
Cheney, Sedgwick County, Kans.	27	5:45 p.m.			0	0	0	0	Tornado	Very narrow funnel which appeared to form on ground, withdrew into cloud base and disappeared in about 15 minutes. 2 or 3 additional funnels not touching the ground observed at same time. Storm moved northeastward. One of several tornadoes which developed nearly simultaneously along 130-mile line from Harper County to northern Dickinson County.
Canton (northeast of), McPherson County, Kans.	27	5:50 p.m.	10	300	0	0	25,000	0	Tornado and electrical	Tornado moving northeastward damaged 3 farmsteads and cemetary. One of several tornadoes which developed nearly simultaneously along 130-mile line from Harper County to northern Dickinson County. This tornado formed 10 miles east of and about 30 minutes later than tornado which developed near McPherson.
Harper County, Kans.	27	6 p.m.			0	0	0	0	Tornado	Funnel reported seen between Harper and Anthony. Southernmost of several tornadoes which developed nearly simultaneously along 130-mile line from Harper County to northern Dickinson County.
Clara City, Adrian, and Crookston, Minn.	27	6 p.m.					18,000		Wind, rain, hail, and electrical	School unroofed, telephone lines downed, and trees broken off. Hail reported at Adrian and Clara City; maximum diameter 2 inches. Many windows knocked out. Hail also fell over southwestern counties. Some damage by lightning reported near Crookston. Storm moved northward.
Slayton, Wilmont, and Morgan, Minn.	27	7 p.m.	30	*20			25,800		Wind, hail, rain, and electrical	Wind damage estimated $10,000. Hail damage $15,000. Hailstones reported size of hens' eggs at Wilmont. Lightning struck hog house near Morgan, killing 48 young pigs, estimated loss $800. Storm moved northeastward.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Worthington (near), Nobles County, Minn.	27	7 p.m.			0	0		$ 0	Tornado (suspected), wind, rain, hail, and electrical	Automobile lifted off highway, about 7 miles north of Worthington and set in ditch without any damage. Farmer observed funnel-shaped cloud just before small brooder house turned upside down; other buildings left untouched.
Rokeby (2 1/2 miles west-northwest of), Lancaster County, Nebr.	27	9:30 p.m.	Short	Narrow	0	0	$ 1,500	0	Tornado	Funnel cloud observed. 2 small farm buildings destroyed and barn damaged. 4x4 inch timber driven through wall of house. Tornado moved northeastward.
Talmage, Dickinson County, Kans.	27	Evening			0	0	0	0	Tornado (suspected)	Farm buildings damaged. Northernmost of several tornadoes which developed nearly simultaneously along a 130-mile line from Harper County to northern Dickinson County.
Iowa, western portion	27	Evening				1	10,000		Wind and electrical	Damaged buildings at numerous points. Girl injured by falling timbers when porch collapsed.
	27									Minor storms also reported at Sedan, Kans.; Long Prairie, Minn.; and near Hickman and Bennet, Nebr.
Utah	28	A.m.							Freeze	Some damage to apricot, cherry, and sugar beet crops. Greater damage to apricots.
Fort Pierce to Miami, Fla.	29	10 a.m.-5 p.m.	150	*9		1	900,000	100,000	Wind, rain, hail, and electrical	Storm most severe in Fort Lauderdale area where winds of 90 m.p.h., with gusts to 130 m.p.h. Hailstones marble size at Fort Pierce and Miami Beach, egg size at Fort Lauderdale. Hail damaged roofs, smashed windows, dented automobiles, and cut shrubbery to shreds. Lightning contributed to property damage by burning out portions of electric power distribution systems. About 25 percent of damage caused by hail.
Tioga (10 miles west of), Cooke County, Tex.	29	3:30 p.m.			0	0	0	0	Tornado	Pilot reported tornado cloud.
Perry (near), Ralls County, Mo.	29	Night					Moderate	1,000	Rain and electrical	Cattle barn containing about 500 bushels of corn and 900 bales of hay destroyed by lightning.
Reeves County, Tex.	29								Hail	4,000 acres of cotton destroyed.
	29									Minor storm also reported in Oldham County, Tex.
Loco Hills (30 miles east of), Eddy County, N. Mex.	30	6:30 p.m.		*2			25,000		Wind, rain, hail, and electrical	Buildings blown over and windows blown out. Storm moved north-northwestward.

THE FOLLOWING STORMS RECEIVED TOO LATE TO BE PLACED IN CHRONOLOGICAL ORDER.

Place	Date	Time	Length of path, miles	Width of path, yards	Killed	Injured	Property (exclusive of crops)	Crops	Character of storm	Remarks
Oklahoma	3	P.m.	175	*150					Dust and wind	Wheat crop injured considerably in western part of State. Storm moved eastward.
	5									Minor storm reported in Jackson County, Okla.
Marietta, Love County, to Wilson (near), Carter County, Okla.	6	6-9 a.m.	30	*5			Considerable	Considerable	Hail, wind, and rain	Hail heavy in places; wind strong in path of storm. Storm moved northwestward.
Duncan, Stephens County, Okla.	11	9-10 p.m.	15		0	0	Considerable	Minor	Tornado, wind, rain, and hail	Damage by wind and hail. Funnel sighted. Storm moved northeastward.
Comanche, Stephens County, Okla.	11	9-10 p.m.			0	0	Considerable	Minor	Tornado (suspected), wind, rain, and hail	Damage by hail. Storm moved northeastward.
Lawton, Comanche County, Okla.	11	9-10:30 p.m.	10	Narrow	0	0	0	Minor	Tornado, wind, and rain	Funnel aloft sighted; heavy local rains after funnel passed on. Storm moved northeastward.
Moore and Norman, Cleveland County, Okla.	11	11 p.m.-midnight	10	*6			17,000	Minor	Wind and hail	Walls of building in Moore fell apart as if tornado had passed. Wind strong in Oklahoma City and barometer quite low. Moore is about 10 miles from Oklahoma City. Storm moved north-northwestward.
	11									Minor storms also reported at Lindsay, Anadarko, and Purcell, Okla.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Guthrie, Logan County, Okla.	12	12:30 a.m.	5	*1			$ 15,000	Minor	Wind	Greatest damage to electric light wires.
Pawnee, Pawnee County, to Pawhuska, Osage County, Okla.	12	2-3 a.m.	40	Narrow	0	0	Minor	Minor	Tornado (suspected) and wind	Unconfirmed reports that funnels sighted at Yale, Pawnee, and Perry. Storm moved northeastward.
Antlers, Pushmataha County, Okla.	12	2:30 a.m.	5	*1/4	0	0	Considerable	Minor	Tornado (suspected), wind, rain, and electrical	Some buildings unroofed and trees and TV antennas blown down. Storm moved northeastward.
Cimarron County, Okla.	12	All day					Considerable		Snow and wind	Damage mostly to telephone and powerlines; some damage to farm buildings. Storm moved southeastward.
Guymon, Texas County, Okla.	12	All day					Considerable		Snow and wind	Damage great to utility lines and slight to farm buildings. It was quite late in season for storm of this nature.
	12									Minor storms also reported at Oklahoma City, Del City, and Sallisaw, Okla.
	18									Minor storm reported at Medford, Okla.
	19									Minor storms reported at Enid and Blackwell, Okla.
Pauls Valley, Garvin County, Okla.	20	6 p.m.			0	0	Minor	Minor	Tornado, rain, and hail	Funnel cloud aloft, not observed on ground. Storm moved northeastward.
Russelville-Quinton area, Pittsburg County, Okla.	20	7:30-11:30 p.m.					15,000	$5,000	Hail, wind, and rain	Some hailstones weighed almost 1 pound; some hailstones sank 4 and 5 inches into wet ground. Many automobile tops battered full of holes. Storm moved northeastward.
Eufala, McIntosh County, Okla.	20	8 p.m.					Minor	Considerable	Hail	Some hailstones 1 inch in diameter. Storm moved northeastward.
	20									Minor storms also reported at Ada, Idabel, and Atoka, Okla.
Duncan, Stephens County, Okla.	22	7-11 p.m.	15	*1/4 to 3	0	2	25,000	700,000	Tornado (suspected), hail, wind, and rain	Possibility that a tornado occurred near Duncan; radar indicated severe storm in area, but it was later than the reports state that storm struck Duncan. Radar indicated severe storm about 50 miles southwest of Duncan at time of severe storm at Duncan. Storm moved northeastward.
Oklahoma City and Bethany, Oklahoma County, and El Reno, Canadian County, Okla.	22	10-11 p.m.	30	*5			1,500	10,000	Wind, rain, and hail	Several buildings damaged in El Reno; hail up to 1/2 inch in diameter covered ground in Bethany at 10:15 p.m. Some hail at Oklahoma City Airport; winds with gusts over 50 m.p.h., occurred at 10:41 p.m., at Will Rogers Field, Oklahoma City; some damage to signs in Oklahoma City. Storm moved northeastward.
Billings (near), Noble County, Okla.	22	10:30 p.m.	Short	Narrow	0	0	200	Minor	Tornado (suspected) and wind	Suspected tornado moving northeastward demolished most buildings on farm 11 miles southeast of Billings.
Sulphur, Murray County, Okla.	22	Night			0	0	0	0	Tornado and wind	Funnel cloud aloft reported observed; moved northeastward.
Kiowa, Washita, and Caddo Counties, Okla.	22	P.m.	30	*20	0	0	4,000	5,000	Tornado (suspected), hail, wind, and rain	Occurred at Mountain View, Kiowa County, Cordell and Cowden, Washita County, and Carnegie, Caddo County. Unconfirmed tornado report received. Storm moved northeastward.
Fort Cobb, Caddo County, Okla.	22				0	0	Light	40,000	Tornado, wind, and hail	Funnel sighted. Exact time of storm not learned, but after dark and residents of Fort Cobb had not retired for night when local warning siren sounded. Tornado did not do much damage, but hailstorm destroyed many acres of grain. Storm moved east-northeastward.
	22									Minor storms also reported at Ponca City and near Carnegie, Okla.
Durant (near), Bryan County, Okla.	23	2:30 a.m.	Short	Narrow	0	0	5,000	Minor	Tornado (suspected) and wind	Suspected tornado moving northeastward damaged several boat houses at Catfish Bay.
Wewoka (near), Seminole County, Okla.	23	A.m.	Short	Narrow	0	0	Minor	Minor	Tornado and wind	Tornado moving northeastward damaged farm buildings east of Wewoka.
Oklahoma, western and northern portions	23	Daytime					Minor	50,000	Dust and wind	Many people stated that this was the most severe duststorm since the middle 1930's. Storm moved eastward.
	23									Minor storm also reported at Madill, Okla.

See footnotes at end of table.

Table 4–Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons Killed	Number of persons Injured	Estimated damage Property (exclusive of crops)	Estimated damage Crops	Character of storm	Remarks
Kiowa (near), Pittsburgh County, Okla.	26	1:30-2:30 a.m.	**200	100	0	0	$800	Minor	Tornado (suspected).	Suspected tornado moving northeastward damaged several farm buildings and twisted and broke heavy building timbers.
Prague (near), Lincoln County, Okla.	26	11-11:15 a.m.	12	100			10,000		Wind and rain	3 barns and other small farm buildings blown down. Storm moved northeastward.
Shawnee, Pottawatomie County, Okla.	26	9 a.m. & 12 noon to 1:30 p.m.			0	0	2,000	$0	Tornado (suspected), wind, rain, and hail	Second storm from noon to 1:30 p.m., damaged several buildings. Storm moved northeastward.
Enid, Garfield County, Okla.	26	All day				2		Minor	Dust and wind	2 persons injured in automobile accident which apparently caused by low visibility.
Haskell-Boynton area, Muskogee County, Okla.	26	3:30-3:45 p.m.	2	2,000			10,000	Minor	Wind and dust	Storm moved north-northeastward.
Washita County (southern two-thirds of), Okla.	26	4:30 p.m.	30	*15			60,000	50,000	Hail and rain	Storm moved east-northeastward.
Cordell area, Washita County, Okla.	26	5-6 p.m.	6	*2			Minor	45,000	Hail, rain, and wind	Storm moved northeastward.
Carnegie (near), Caddo County, Okla.	26	6 p.m.-midnight	10	Narrow	0	0	25,200	100,000	Tornadoes, wind, rain, and hail	2 funnels observed, 1 funnel north of Carnegie at 6:15 p.m.; the other funnel south of Carnegie at 6:15 p.m. Storm moved eastward.
Gracemont, Caddo County, Okla.	26	6:30 p.m.	[illegible]	Narrow	0	0	10,000	500	Tornado, wind, rain, and hail	Farm buildings demolished and much roofing blown away. Storm moved northeastward.
	26									Minor storms also reported at Enid, Guthrie, and Seminole, Okla.
Medford area, Grant County, Okla.	27	4-5:30 p.m. & 7:30-9 p.m.	30	*20	0	1	Minor	2,000	Tornado (suspected), rain, and hail	1 person saw funnel aloft. Several persons reported hearing noise that they thought was from tornado. Storm moved northeastward.
Garber, Garfield County, Okla.	27	8-10 p.m.	Short	Narrow	0	1	1,000	Minor	Tornado, wind, rain, and hail	2 confirmed reports of funnel clouds touching ground. 2 unconfirmed reports of funnel clouds aloft. Railroad brakeman was on side of moving train when storm carried part of wrecked building into side of train and struck him, causing him to fall to ground. Train wheels struck and injured his leg.
Chickasha, Grady County, Okla.	27	8:30 p.m.			0	0	Minor	Minor	Tornado (suspected), wind, and hail	Unusually dark cloud aloft observed by several people. Storm moved eastward.
Ponca City, Kay County, Okla.	27	9:30-11:30 p.m.	2	*1			Minor	10,000	Hail and rain	Several very small areas had hail damage. Storm moved northeastward.
	27									Minor storms also reported at Ardmore and near Helena, Okla.

DELAYED REPORTS.

Place	Date	Time	Length of path, miles	Width of path, yards	Killed	Injured	Property (exclusive of crops)	Crops	Character of storm	Remarks
Houston (67 miles west-southwest of), Tex.	Feb. 4	1:49 p.m.			0	0	$0	$0	Tornado	Funnel cloud reported, apparently did not reach ground.
Tallahassee, (5 miles east of), Fla.	17	2:13 p.m.			0	0	0	0	Tornado	Funnel cloud reported by aircraft pilot.
Hilo, Hawaii	Mar. 18	5:20 p.m.	1/2	10	0	0	1,000	0	Waterspouts	2 waterspouts moved in from sea in west-southwestward direction. 3-car garage leveled and large tree downed by first waterspout as it swept over town. Second waterspout dissipated before reaching town.
	20									Minor storm reported at Hilo, Hawaii.

* Miles instead of yards.
** Yards instead of miles.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

APRIL 1955

The most significant flooding during April occurred in the East Gulf of Mexico drainage where major flooding was reported on some of the streams.

In the Arkansas Basin streams remained low, averaging several feet below normal. Record to near-record mean monthly low stages for the month were reported.

No floods were reported west of the Continental Divide.

ATLANTIC SLOPE DRAINAGE

The greatest snow cover New England has had in many years melted during the month, but caused no flooding. The only serious flood threat occurred in the Kennebec River in Maine on the 16th where near-bankfull stages were reached along its entire course.

The flooding in streams in eastern North Carolina from the 14th to the 21st was caused by heavy rain between the 11th and 14th. During that period precipitation in the Cape Fear and upper Roanoke Rivers averaged between 2 and 3 inches. The Roanoke was above flood stage at Weldon and Scotland Neck for 2 to 3 days, but remained above flood stage at Williamston from April 19 through May 7.

On the 13th and 14th, moderately heavy rains over the Santee River Basin in South Carolina caused minor flooding on the Saluda and Broad Rivers between the 14th and 16th, and on the Santee River between the 19th and 29th. Damages were light.

Following the heavy rains (2 to 3.5 inches) on the 14th, the highest stages since 1952 occurred along the Lynches and Black Rivers in South Carolina. The antecedent conditions were favorable for heavy runoff as 1-inch rain fell on the 12th. Very little damage was reported.

The minor flooding that occurred in the Savannah and Ogeechee Rivers in Georgia between the 19th and 24th was the result of the heavy rain (3 inches) during the 5-day period ending April 15. No serious damages resulted, although there were minor filth-clearance and stock-feeding costs.

EAST GULF OF MEXICO DRAINAGE

Flooding along the Apalachicola River at Blountstown, Fla., between the 16th and 20th was caused by the cumulative effects of four evenly distributed periods of rain during the first two weeks of April. The high water in the Apalachicola River was more beneficial than detrimental in that it enabled interested persons to carry on extensive logging operations.

Excessive rains over the Escambia and Choctawhatchee River Basins in Alabama during the 24-hour period ending on the morning of the 14th caused considerable damage on the Escambia and Perdido Rivers and connecting creeks. Many cotton and corn fields had to be replanted, and a great deal of damage resulted to highways and bridges.

Flood stages were exceeded on the Alabama and Cahaba Rivers in Alabama between the 13th and 23d due to heavy rainfall on the 9th and 10th and on the 13th and 14th. These floods caused considerable damage to roads, highways, railroads, and bridges.

Heavy rains on the 11th and 13th caused another rise on the Tombigbee River with secondary crests occurring between the 16th and 21st. This flood followed a much larger one on the upper Tombigbee and, for this reason, damage was slight. The stages were not unusually high for the season on the lower Tombigbee and damage was confined mostly to loss of time by timber interests and by cattle ranchers who were forced to drive their cattle from the lowlands. On the 11th, the rainfall over the Warrior and lower Tombigbee averaged approximately 1-1/4 inches, and over 3 inches in the extreme lower portion. On the 13th, the rainfall averaged 2.5 inches over the upper Tombigbee, 2.25 inches over the lower portion, and 1.25 inches over the Warrior.

The major flooding on the Pearl River resulted from heavy rains during the night of the 12th-13th. The rainfall amounts in the basin ranged from 1.5 to 9.2 inches during a 12- to 18-hour period. This flood was preceded by flash floods in the Jackson and Columbia, Miss., areas during which one life was lost in Jackson and considerable business property inundated at Columbia.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--In the Upper Mississippi, rapid melting began on March 29 and extended through April 5. By that date maximum temperatures of about 80° had occurred over the snow-covered area, and all the snow was reported gone except in sheltered areas in the extreme north. General rises occurred in the Upper Mississippi River above Fort Ripley, Minn., and in the St. Croix, Chippewa, Black, and Wisconsin tributaries, resulting in crests during the period April 5-10 that were below flood stage at all points.

General rains, mostly of moderate intensity, occurred over the basin on April 23-25. Amounts were heavy in the Raccoon and upper Des Moines Basins, ranging from 3 to 5 inches. Bankfull rises resulted in the Raccoon and the lower Skunk River on the 25th-26th, and in the lower Illinois on the 28th-30th.

The snow melt rise in the Upper Mississippi, followed by runoff from the April 23-25 storm, caused a steady rise in the lower river beginning on April 4 and continuing through the remainder of the month. The Mississippi River overflowed its banks at Dam 24 (Clarksville, Mo.) and at Dam 25 (Winfield, Mo.) between the 26th and 30th.

Missouri River Basin.--The ice breakup on the Missouri River reached Mobridge, S. Dak., on April 1 and Bismarck, N. Dak., on the 3d. This ice breakup was of little consequence.

A flash flood that occurred on Gypsum Creek at Gypsum, Kans., on the 12th-13th caused widespread overflow along the Valley, as well as on Stagg Creek which is one of its main tributaries. Unofficial reports of heavy rainfall ranged as high as 8 to 10 inches in the vicinity of Roxbury, near the headwaters of Gypsum Creek. There were also reports of 6-inch rains below the headwaters, with amounts decreasing to 2.5 inches at Gypsum. Flood waters were 2.5 feet deep on the main street of Gypsum. However, there was no report of residences being flooded. The flash flood crested at Gypsum about noon of the 13th with most of the town reportedly inundated. The resulting rise of the Smoky Hill River at Enterprise, Kans., occurred on the 15th. Only minor crop losses were sustained. The flooding of most alfalfa, wheat, barley, and rye fields was expected to prove beneficial.

A similar thunderstorm pattern on the 25th produced a slight rise on the Missouri between Omaha and Nebraska City, Nebr., with minor rises on the tributary streams in Missouri and Iowa.

A single series of thunderstorms on the 28th produced amounts up to 2.50 inches in the Floyd River Basin. Near bankfull stages were reached on the Floyd above James, Iowa.

Ohio River Basin.--In the beginning of the month, stages were above flood and falling slowly at a few stations on the Ohio and along the lower reaches of the Green and Cumberland Rivers in Kentucky.

The overflow on the White River at Edwardsport, Ind., from the 14th to the 19th was due to rains from the 11th to the 13th, which averaged about 2 inches over the lower two-thirds of the basin. Additional rain on the 23d-25th caused light flooding again at Edwardsport from the 25th to the 30th, and local flooding on the Wabash River at Lafayette, Ind., on the 27th.

Heavy rains over the Tennessee Valley on the 5th, 6th, and 7th caused minor flooding on some of the uncontrolled tributaries in the basin. The rains during this period were heaviest over the Elk and Duck River Basins, ranging up to 5 inches at some points during the 3 days. No damage resulted from these overflows.

White River Basin.--Flooding along the White River began in March and continued along the lower reaches of that stream during the first part of April. No damages were reported.

Arkansas River Basin.--The mean monthly stage of the Arkansas River at Tulsa, Okla., averaged 2.7 feet, 3.2 feet below normal. This is the lowest mean monthly stage of record for the month of April. The previous low mean monthly stages for April were 3.2, 3.5, and 3.7 feet in the years 1936, 1950, and 1932, respectively. The Cimarron River at Perkins, Okla., showed a mean monthly stage of 3.0 feet, which is 2.3 feet below normal. This equals the previous low mean monthly stage of record for April set in April 1954.

April showers were frequent during the month. There were 16 days with measurable precipitation in some portions of the basin. In Pueblo, Okla., it was the driest month of record with only .02 inch of precipitation recorded for the month.

Red Basin.--The Sulphur River overflowed twice during the month at Naples, Tex. The first overflow on the 11th and 12th was due to heavy showers and thundershowers on the 5th, 6th, and 7th. Additional heavy precipitation on the 12th and 13th caused the second overflow with a crest 4 feet above flood stage. Since most of the flooded area is devoted to pasture land, little or no damage resulted.

Lower Mississippi Basin.--Heavy rains during the first week of April and again on the 11th and 12th sustained high stages on rivers in the Yazoo Basin in Mississippi throughout the month. The Coldwater River at Sarah, Miss., was above flood stage on the 2d, 13th, 14th, and on the 21st. The Tallahatchie River at Swan Lake remained above flood stage throughout the month, except on the 11th and 12th when it dropped slightly below. The Yazoo River at Yazoo City rose to flood stage on the 3d and remained above flood stage for the remainder of the month. Some flooding occurred along the Big Black from about the 1st to the 25th of the month. The highest stage at Bovina, near Vicksburg, was approximately 37 feet, 5 feet above bankfull stage. Only farmland was affected by the flooding.

WEST GULF OF MEXICO DRAINAGE

The light flooding on the Sabine River in Texas and on the Calcasieu, Nezpique, Bayou, and Mermentau Rivers, near the middle of the month, was due to rainfall between the 9th and 13th. Damages were insignificant. All stages were low at the close of the month, except on the Sabine at Deweyville, where it was near bankfull stage.

FLOOD STAGE DATA

Table 5

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
Roanoke:					
Randolph, Va	21	14	16	**22.8	16
Weldon, N. C.	31	17	20	**31.6	19
Scotland Neck, N. C.	28	19	21	**28.6	21
Williamston, N. C.	10	19	May 5	11.05	25
Neuse: Smithfield, N. C.	13	16	18	**13.5	18
Cape Fear: Lock No. 2, Elizabethtown, N. C.	20	15	19	26.0	17
Pee Dee:					
Cheraw, S. C.	30	15	17	34.65	15
Peedee, S. C.	19	16	24	22.5	21
Yadkin: Wilkesboro, N. C.	14	14	14	14.2	14
Saluda: Chappells, S. C.	13	15	15	13.5	15
Broad: Blairs, S. C.	14	14	16	19.6	15
Santee: Rimini, S. C.	12	19	29	14.7	21
Savannah: Clyo, Ga.	11	21	24	11.35	23
Ogeechee: Dover, Ga.	7	19	22	7.5	20
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	16	20	17.5	18
Choctawhatchee: Caryville, Fla.	12	17	19	13.2	18
Cahaba:					
Centreville, Ala	23	13	14	27.1	14
Suttle, Ala.	32	15	-	**36.7	15
Alabama:					
Montgomery, Ala.	35	15	16	36.9	15
Millers Ferry, Ala.	40	14	21	47.5	18
Claiborne, Ala.	40	14	23	44.1	20
Tombigbee:					
Aberdeen, Miss.	34	14	18	38.2	15
Gainesville, Ala.	36	Mar. 28 16	5 22	41.6 38.8	3 20,21
Lock 4, Demopolis, Ala.	42	Mar. 25 12	6 24	48.3 54.0	Mar 28 18
Lock 3, Whitfield, Ala.	33	Mar. 23	27	45.9 53.3	3 18,19
Lock 2, Pennington, Ala.	46	Mar. 26 12	7 25	47.7 54.7	4 19
Lock 1, Jackson, Ala.	31	Mar. 28	28	33.3 36.6	5,6 16,17,18
Pascagoula: Merrill, Miss.	22	14	20	23.1	16,17
Bogue Chitto: Franklinton, La.	11	13	16	18.3	15
Pearl:					
Edinburg, Miss.	20	12	20	23.4	16
Jackson, Miss.	18	11	28	31.5	21
Monticello, Miss.	15	11	30	23.5	15
Columbia, Miss.	17	12	30	23.4	16
Bogalusa, La.	15	11	#	20.2	16
Pearl River, La.	12	13	#	E16.7	18
MISSISSIPPI SYSTEM Upper Mississippi Basin					
Skunk: Augusta, Iowa	15	25	25	15.7	25
Illinois: Havana, Ill.	14	%	30	14.0	28-30
Mississippi:					
Dam 24 (Clarksville, Mo.)	23	26	30	24.2	27
Dam 25 (Winfield, Mo.)	23	26	30	24.1	28
Missouri River Basin					
Chariton: Novinger, Mo.	20	13	14	21.7	13
Ohio Basin					
Green: Lock 2, Rumsey, Ky.	34	Feb. 25	8	41.5 42.9	Mar. 10 Mar 30
West Fork, White:					
Edwardsport, Ind.	12	14 25	19 30	16.5 14.1	16 26
Wabash: Lafayette, Ind.	11	27	27	11.1	27
Elk: Fayetteville, Tenn.	659	6	7	661.1	6
MISSISSIPPI SYSTEM (Cont'd.) Ohio Basin (Cont'd.)					
Duck:					
Shelbyville, Tenn.	719	6	7	720.9	6
Shelbyville, nr., Tenn.	21	6	7	21.5	7
So. Chickamauga Creek:					
Chickamauga, Tenn.	10	6 14	7 15	10.5 10.7	6 14
Tennessee: Gilbertsville, Tenn	320	Feb. 23	7	336.4	Mar. 29
Ohio: Dam 47, Newburgh, Ind.	38	Feb. 27	2	46.9 44.8	Mar. 12 Mar. 25
Dam 48, Cypress, Ind.	38	Feb. 28	2	47.0 44.8	Mar. 14 Mar. 26
Mt. Vernon, Ind.	35	Feb. 28	3	**42.6	Mar. 28
Dam 49, Uniontown, Ky.	37	Mar. 2	4	**44.6	Mar. 28
Shawneetown, Ill.	33	Feb. 27	5	**45.3	Mar. 28
Dam 50, Fords Ferry, Ky.	34	Feb. 26	6	49.8 48.7	Mar. 14 Mar. 27
White Basin					
White					
Clarendon, Ark.	26	Mar. 27	8	27.0	2
St. Charles, Ark.	25	Mar. 30	16	25.8	5-8
Red Basin					
Sulphur: Naples, Tex.	22	11	12	**22.3 **26.0	11 18
Lower Mississippi Basin					
Coldwater: Sarah, Miss.	18	2 13 21	2 13 22	19.1 22.0 20.6	2 13 21
Tallahatchie: Swan Lake, Miss	26	Mar. 23 13	11 #	27.0 28.7	2 17
Yazoo: Yazoo City, Miss.	29	3	#	33.3	13
Big Black: Bovina, Miss.	32	15	26	37.0	18
WEST GULF OF MEXICO DRAINAGE					
Nezpique Bayou: Basile, La.	22	13	16	23.2	14
Mermentau: Mermentau, La.	5	13	15	5.2	14
Calcasieu:					
Oakdale, La.	12	16	17	12.2	16
Kinder, La.	16	16	19	16.45	17
Sabine:					
Mineola, Tex.	14	12	21	16.3	15
Bon Wier, Tex.	17	13	14	17.85	13
Deweyville, Tex.	14	15	21	14.8	16

% Gage inoperative April 2 - 27.
# Continued at end of month.
E Estimated.
* Provisional.
** Highest stage reported but not necessarily the crest.

RADIOSONDE DATA

Average monthly values

Table 20

APRIL 1955

Standard pressure surface (mb)	ALBUQUERQUE, N. MEX. (834 MB.)				ANCHORAGE, ALASKA (1001 MB.)				ANNETTE, ALASKA (1006 MB.)				ATLANTA, GA. (980 MB.)				BARROW, ALASKA (1016 MB.)				BETHEL, ALASKA (1007 MB.)				BISMARCK, N. DAK. (949 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,619	13.9	22	29	42	2.7	54	30	37	6.3	73	29	309	17.6	60	30	8	-16.4	72	30	4	- 4.7	78	29	505	9.7	55
1,000	30	49			29	42			30	89			29	129			30	126	-17.5	74	30	60			29	61		
950	30	499			29	456	- 1.0	55	30	510	2.4	69	29	571	18.4	51	30	522	-14.4	75	30	467	- 7.8	71	29	499		
900	30	965			29	882	- 4.2	60	30	941	- 1.0	70	29	1,033	15.3	53	30	923	-14.1	68	30	879	- 9.7	65	29	944	10.3	48
850	30	1,454			29	1,329	- 7.5	64	30	1,394	- 4.4	71	29	1,514	11.8	53	30	1,356	-15.1	63	30	1,319	-11.1	61	29	1,417	7.3	48
800	30	1,965	12.0		29	1,798	-10.6	65	30	1,868	- 7.9	70	29	2,019	8.8	49	30	1,812	-16.7	54	30	1,782	-13.4	59	29	1,914	4.3	48
750	30	2,504	7.6		29	2,294	-13.9	63	30	2,371	-11.2	61	29	2,558	6.1	42	30	2,304	-18.9	49	30	2,278	-16.0	55	29	2,441	.8	48
700	30	2,963	2.8		29	2,811	-17.5	62	30	2,892	-14.8	51	29	3,112	2.8	37	30	2,806	-21.5	48	30	2,787	-18.9	52	29	2,986	- 2.8	45
650	30	3,659	2.4	31	29	3,368	-21.3	60	29	3,449	-18.9	48	29	3,712	- .8	35	30	3,358	-24.8	43	30	3,342	-21.9	48	29	3,572	- 6.6	45
600	30	4,286	- 7.7	34	29	3,947	-25.3	56	29	4,034	-22.8	44	29	4,342	- 5.0	30	30	3,926	-28.3	38	30	3,920	-25.4	46	29	4,189	-10.7	43
550	30	4,956	-13.2	39	29	4,577	-29.4	53	29	4,667	-26.8	46	29	5,021	- 9.5		30	4,552	-32.2	39	30	4,552	-28.8	45	29	4,854	-15.3	40
500	28	5,676	-18.6	38	29	5,247	-33.7	50	28	5,341	-31.5	47	28	5,749	-14.7		30	5,212	-36.4	40	30	5,223	-32.8	45	29	5,564	-20.4	39
450	27	6,454	-24.6		28	5,986	-38.1		28	6,083	-36.8		28	6,548	-20.6		30	5,945	-41.1		30	5,962	-37.4		29	6,342	-26.3	35
400	26	7,293	-30.8		28	6,780	-42.8		28	6,884	-42.1		28	7,400	-26.9		30	6,727	-46.0		30	6,762	-42.1		29	7,175	-32.6	34
350	26	8,228	-37.1		28	7,669	-47.7		28	7,777	-47.2		28	8,349	-34.1		30	7,604	-51.3		30	7,654	-47.9		28	8,101	-40.0	
300	26	9,276	-44.2		28	8,679	-50.3		28	8,786	-50.4		28	9,410	-42.2		30	8,594	-54.5		29	8,661	-51.4		28	9,136	-47.8	
250	26	10,477	-51.4		27	9,873	-49.1		28	9,972	-50.2		28	10,619	-51.1		29	9,767	-52.4		28	9,848	-50.8		28	10,316	-55.6	
200	25	11,901	-56.1		26	11,348	-47.5		28	11,432	-48.3		28	12,048	-57.4		29	11,217	-50.0		28	11,305	-48.9		27	11,733	-57.3	
175	25	12,747	-56.5		26	12,230	-47.2		27	12,305	-47.5		27	12,887	-58.1		29	12,090	-49.4		27	12,180	-48.4		27	12,579	-55.4	
150	25	13,722	-57.9		25	13,257	-47.2		27	13,321	-48.4		26	13,853	-59.9		29	13,098	-49.6		27	13,193	-48.6		27	13,566	-54.0	
125	24	14,865	-60.4		25	14,461	-47.9		25	14,520	-49.8		26	14,983	-62.9		28	14,282	-49.9		27	14,389	-49.1		27	14,735	-54.3	
100	23	16,246	-63.1		22	15,915	-49.0		24	15,974	-51.6		22	16,354	-65.0		27	15,743	-50.4		27	15,850	-49.7		26	16,154	-55.5	
80	21	17,611	-64.1		21	17,387	-49.9		17	17,428	-52.4		17	17,707	-66.5		27	17,194	-51.3		27	17,308	-50.4		25	17,566	-57.8	
60	20	19,374	-62.4		20	19,259	-50.5		14	19,285	-53.5		16	19,449	-64.1		26	19,054	-51.9		26	19,181	-51.0		20	19,372	-59.0	
50	20	20,503	-60.7		19	20,445	-50.8		7	20,452	-54.1		12	20,581	-61.5		24	20,248	-51.8		26	20,367	-50.7		17	20,517	-58.9	
40	17	21,895	-58.4		16	21,917	-50.6						10	21,996	-57.8		20	21,675	-52.1		26	21,822	-50.1		14	21,915	-58.9	
30	7	23,690	-55.3		11	23,818	-50.0						10	23,833	-52.6		5	23,534	-51.7		20	23,694	-50.1					
20													5	26,476	-47.4													

Standard pressure surface (mb)	BOISE, IDAHO (913 MB.)				BROWNSVILLE, TEX. (1010 MB.)				BUFFALO, N. Y (991 MB)				BURRWOOD, LA. (1014 MB.)				CARIBOU, ME. (991 MB.)				CHARLESTON, S. C. (1014 MB.)				COLUMBIA, MO. (983 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	868	7.7	61	30	7	22.6	84	29	182	8.5	84	30	3	19.9	89	30	191	2.3	73	30	13	16.9	80	30	238	16.5	53
1,000	30	104			30	93	22.5	81	29	108			30	126	20.2	82	30	117			30	135	18.7	67	30	85		
950	30	536			30	545	21.3	68	29	538	9.8	68	30	570	19.3	62	30	535	2.5	60	30	581	18.0	54	30	529	17.3	46
900	30	982	7.7	53	30	1,009	21.3	48	29	982	7.6	67	30	1,032	17.4	50	30	969	.2	61	30	1,037	14.8	56	30	984	14.4	47
850	30	1,450	4.6	51	30	1,502	19.2	42	29	1,451	4.9	68	30	1,518	14.4	45	30	1,425	- 2.1	62	30	1,518	11.5	57	30	1,464	11.0	48
800	30	1,941	.7	56	30	2,021	17.2	33	29	1,943	2.2	66	30	2,028	12.1	38	30	1,904	- 4.0	62	30	2,022	8.6	51	30	1,967	7.8	46
750	30	2,461	- 3.4	63	30	2,574	14.3		29	2,469	- .4	59	30	2,572	9.2	35	30	2,418	- 6.5	59	30	2,560	5.8	38	30	2,503	5.0	41
700	30	2,997	- 7.3	67	30	3,147	10.8		29	3,011	- 3.9	57	30	3,134	5.6		30	2,948	- 8.7	56	30	3,115	2.6	34	30	3,056	1.6	40
650	30	3,575	-11.2	67	30	3,763	6.4	25	29	3,599	- 6.9	52	28	3,736	2.1		30	3,525	-11.6	51	30	3,718	- 1.1	35	30	3,652	- 2.5	42
600	30	4,180	-15.0	62	29	4,408	1.3	31	29	4,213	-10.6	49	28	4,377	- 2.0		30	4,128	-15.0	47	30	4,344	- 5.2	33	30	4,278	- 6.9	37
550	30	4,837	-19.2	60	29	5,100	- 3.8		29	4,878	-15.0	46	28	5,057	- 6.6		30	4,783	-18.8	42	30	5,026	- 9.9	31	30	4,950	-11.9	37
500	30	5,536	-23.6	52	29	5,847	- 9.5		29	5,590	-20.1	46	28	5,800	-11.8		30	5,485	-23.8		30	5,749	-15.0	36	30	5,673	-17.1	
450	30	6,305	-29.0	52	29	6,661	-15.3		29	6,370	-26.0	44	28	6,608	-17.8		30	6,252	-29.2		30	6,548	-20.5		30	6,463	-22.9	
400	30	7,130	-35.1	53	29	7,532	-21.7		29	7,204	-32.4	46	28	7,469	-24.2		30	7,079	-35.1		30	7,399	-26.7		30	7,307	-29.5	
350	30	8,047	-41.9		29	8,501	-29.0		29	8,131	-39.4		28	8,427	-31.7		30	7,997	-41.4		30	8,347	-34.2		30	8,245	-36.6	
300	30	9,075	-48.8		28	9,588	-37.4		26	9,150	-47.7		28	9,498	-40.2		30	9,026	-48.2		30	9,407	-42.2		30	9,295	-44.7	
250	30	10,254	-55.1		28	10,819	-47.3		26	10,333	-55.0		27	10,720	-49.5		30	10,211	-53.9		29	10,619	-51.1		30	10,491	-53.1	
200	30	11,677	-54.9		28	12,261	-57.1		26	11,746	-56.9		27	12,152	-57.9		30	11,635	-54.9		29	12,045	-57.7		30	11,909	-58.1	
175	30	12,534	-53.0		28	13,097	-61.5		26	12,593	-55.9		27	12,987	-60.9		30	12,489	-53.9		29	12,883	-59.1		30	12,751	-57.2	
150	29	13,523	52.7		26	14,045	-64.7		26	13,572	-56.0		27	13,938	-63.9		30	13,480	-53.5		29	13,845	-60.5		29	13,725	-57.5	
125	29	14,697	-53.6		25	15,149	-68.0		24	14,728	-57.0		27	15,047	-66.4		30	14,650	-54.3		28	14,971	-62.9		27	14,877	-59.9	
100	28	16,129	-54.7		18	16,473	-71.2		14	16,144	-59.2		27	16,388	-69.4		30	16,074	-55.8		24	16,332	-65.6		26	16,264	-62.1	
80	25	17,551	-56.0		14	17,777	-73.8		10	17,538	-59.9		20	17,720	-71.0		26	17,469	-57.2		18	17,675	-67.7		25	17,638	-62.8	
60	21	19,372	-57.3		9	19,467	-68.6		5	19,303	-60.7		18	19,440	-66.1		21	19,282	-57.8		14	19,410	-64.3		22	19,417	-61.5	
50	18	20,519	-57.4		7	20,577	-63.1						16	20,554	-61.9		21	20,431	-57.7		11	20,543	-61.7		19	20,558	-60.3	
40	13	21,943	-57.3		6	21,966	-58.7						14	21,950	-57.3		10	21,860	-56.8		11	21,938	-57.6		17	21,956	-58.0	
30													9	23,768	-53.2						9	23,781	-53.4		11	23,803	-54.9	

Standard pressure surface (mb)	DODGE CITY, KANS. (919 MB.)				EL PASO, TEX. (878 MB.)				ELY, NEV. (804 MB.)				FAIRBANKS, ALASKA (991 MB.)				FORT HUACHUCA, ARIZ. (855 MB.)				GLASGOW, MONT. (933 MB.)				GRAND JUNCTION, COLO. (848 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	792	14.5	44	30	1,195	19.7	16	30	1,908	5.7	34	30	135	- 0.8	54	29	1,428	16.3	19	30	648	7.8	61	30	1,474	10.2	35
1,000	30	63			30	53			30	83			30	65			29	66			30	66			30	76		
950	30	504			30	510			30	523			30	466	- 3.5	44	29	519			30	497			30	518		
900	30	965	15.3	37	30	980			30	975			30	897	- 6.5	51	29	988			30	944	7.8	49	30	973		
850	30	1,447	12.5	35	30	1,471	19.0		30	1,449			30	1,340	- 9.7	57	29	1,477	16.0		30	1,412	4.8	49	30	1,455		
800	30	1,952	9.1	37	30	1,987	14.8		30	1,951			30	1,806	-12.3	59	29	1,989	12.6		30	1,904	1.9	48	30	1,959	8.5	30
750	30	2,485	5.5	34	30	2,530	10.3		30	2,481	3.2	34	30	2,299	-15.1	56	29	2,523	8.4		30	2,427	- 1.5	49	30	2,495	4.1	32
700	30	3,043	1.5	32	30	3,096	5.6		30	3,031	- 1.7	41	30	2,815	-18.4	50	29	3,090	4.1		30	2,967	- 5.2	51	30	3,045	- .5	37
650	30	3,640	- 2.7	32	30	3,696	.6		30	3,615	- 7.0	49	30	3,370	-22.0	49	29	3,688	.0		30	3,551	- 9.2	51	30	3,635	- 5.6	42
600	30	4,264	- 7.5	31	30	4,332	- 4.5		30	4,234	-11.8	53	30	3,948	-25.7	48	29	4,322	- 4.5		29	4,160	-13.1	52	30	4,253	-10.5	45
550	30	4,939	-12.4		30	5,011	- 9.4		30	4,896	-16.3	50	30	4,575	-29.9	47	29	4,999	- 9.3		29	4,820	-17.5	53	30	4,917	-15.5	48
500	30	5,656	-17.7		29	5,739	-14.7		30	5,605	-21.3	50	30	5,246	-34.4	46	29	5,730	-14.7		29	5,524	-22.6	52	30	5,628	-20.6	45
450	30	6,443	-23.5		29	6,535	-20.5		30	6,379	-26.5	44	30	5,984	-39.4		29	6,524	-20.5		29	6,294	-28.2	49	28	6,408	-26.2	42
400	30	7,285	-29.9		29	7,389	-26.9		30	7,216	-32.3	38	30	6,772	-44.5		28	7,383	-26.8		29	7,122	-34.4	46	28	7,238	-32.2	37
350	30	8,222	-37.0		29	8,337	-34.3		29	8,143	-38.7		30	7,655	-49.4		25	8,326	-34.3		29	8,041	-41.5		28	8,166	-39.1	
300	29	9,268	-44.3		28	9,393	-42.4		29	9,185	-45.9		30	8,655	-52.2		24	9,388	-42.2		29	9,069	-48.8		28	9,206	-46.2	
250	29	10,468	-51.7		28	10,601	-51.0		29	10,377	-52.7		30	9,835	-50.4		24	10,597	-51.0		29	10,246	-55.5		27	10,407	-52.5	
200	29	11,899	-55.1		27	12,037	-57.1		28	11,805	-55.2		29	11,298	-48.3		24	12,022	-57.2		29	11,661	-55.5		26	11,835	-54.6	
175	28	12,748	-54.8		26	12,876	-58.4		27	12,663	-54.2		29	12,177	-47.9		21	12,859	-58.2		29	12,515	-53.4		25	12,681	-54.5	
150	27	13,730	-56.5		26	13,840	-60.6		27	13,649	-54.9		29	13,192	-48.0		13	13,823	-58.3		27	13,511	-52.2		25	13,666	-55.1	
125	27	14,877	-59.8		24	14,977	-63.1		27	14,811	-56.3		29	14,391	-48.6						26	14,688	-52.3		25	14,825	-57.2	
100	22	16,263	-61.3		23	16,343	-66.3		27	16,222	-58.0		29	15,854	-49.6						26	16,127	-53.8		22	16,234	-58.6	
80	14	17,649	-62.2		20	17,682	-68.3		27	17,623	-58.7		29	17,310	-50.5						25	17,555	-56.1		19	17,626	-60.4	
60	11	19,444	-61.8		18	19,411	-65.5		23	19,428	-59.3		26	19,196	-51.2						25	19,377	-57.7		15	19,426	-59.7	
50	7	20,577	-60.3		17	20,527	-62.5		17	20,579	-59.0		26	20,378	-52.0						23	20,526	-57.3		12	20,570	-59.0	
40	6	21,982	-57.4		14	21,917	-58.1		17	21,980	-57.9		23	21,826	-52.4						17	21,939	-56.7		10	21,974	-56.9	
30	5	23,808	-54.0		10	23,773	-53.1		11	23,797	-56.5		5	23,573	-54.0						6	23,793	-56.8					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb)	GREAT FALLS, MONT. (882 MB.)				GREEN BAY, WIS. (987 MB.)				GREENSBORO, N. C. (983 MB.)				HATTERAS, N. C. (1015 MB.)				HILO, T. H. (1015 MB.)				INTERNATL FALLS, MINN. (968 MB.)				KOTZEBUE, ALASKA (1011 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,123	4.8	59	30	210	8.0	75	30	273	14.6	71	30	3	15.8	83	30	9	23.0	74	30	360	6.9	66	30	[illegible]	9.6	77
1,000	30	88			30	103			30	129			[illegible]	130	16.4	77	30	145	21.3	75	[illegible]	[illegible]			30	89		
950	30	519			30	536	10.3	59	30	567	16.3	[illegible]	[illegible]	571	[illegible]	[illegible]	30	589	17.8	79	30	[illegible]	8.9	[illegible]	30	[illegible]	[illegible]	[illegible]
900	30	964			30	977	8.1	58	30	1,025	13.4	[illegible]	[illegible]	1,022	12.2	58	30	1,049	14.3	[illegible]	30	961	6.4	59	30	897	[illegible]	[illegible]
850	30	1,428	4.2	49	30	1,447	5.6	55	30	1,503	10.1	56	30	1,499	9.0	62	30	1,530	11.0	85	30	1,427	4.1	56	30	1,333	-13.4	59
800	30	1,918	.7	53	30	1,940	3.1	53	30	2,004	6.6	57	30	1,999	6.2	56	30	2,034	[illegible]	83	30	1,916	1.9	53	30	1,793	-15.1	54
750	30	2,437	- 3.2	59	30	2,465	.9	46	30	2,538	3.4	55	30	2,534	3.1	50	30	2,579	7.0	51	30	2,444	.8	51	30	2,283	-17.6	52
700	30	2,975	- 7.3	64	30	3,013	- 1.7	40	30	3,089	.6	44	30	3,081	.2	45	30	3,133	5.4		30	2,984	- 4.1	53	30	2,792	-20.2	[illegible]
650	30	3,552	-11.1	63	30	3,602	- 5.2	38	30	3,686	- 3.1	42	30	3,676	- 3.1	39	30	3,738	2.9		30	3,569	- 7.6	44	30	3,346	-23.3	47
600	30	4,158	-15.2	60	30	4,222	- 9.3	37	30	4,309	- 7.1	40	29	4,304	- 6.9		30	4,380	- .8		30	4,183	-11.3	43	30	3,919	-26.7	48
550	30	4,811	-19.5	57	29	4,894	-13.6	35	30	4,986	-11.6	38	29	4,981	-11.2	47	30	5,069	- 5.4		30	4,847	-15.9	46	30	4,545	-30.5	45
500	29	5,506	-24.4	56	29	5,612	-18.8		30	5,706	-16.6	39	29	5,702	-16.2	40	30	5,811	-10.2		30	5,556	-21.0	46	30	5,213	-34.7	41
450	29	6,269	-30.1	57	29	6,397	-24.5		30	6,498	-22.3		29	6,496	-21.8		30	6,624	-15.5	33	30	6,334	-26.6	42	30	[illegible]	-39.4	
400	29	7,093	-36.4	59	29	7,235	-30.8	32	30	7,345	-28.4		29	7,343	-28.1		30	7,494	-21.6	34	29	7,161	-33.2	11	30	6,740	-44.4	
350	28	8,004	-43.4		29	8,167	-38.3		30	8,287	-35.4		29	8,287	-35.3		30	8,462	-29.3		29	8,086	-40.1		30	7,623	-49.5	
300	27	9,028	-49.8		29	9,208	-46.3		30	9,343	-43.3		29	9,342	-43.3		30	9,545	-37.4		29	9,120	-48.0		30	8,622	-53.2	
250	27	10,205	-54.5		29	10,395	-54.5		30	10,547	-51.4		29	10,547	-51.1		30	10,777	-47.1		27	10,297	-56.5		30	[illegible]	-52.5	
200	27	11,631	-54.5		29	11,804	-58.5		30	11,972	-57.8		29	11,973	-58.2		30	12,219	-57.4		27	11,701	-58.0		30	11,243	-49.6	
175	27	12,487	-53.2		29	12,645	-56.9		30	12,812	-58.0		29	12,811	-58.6		30	13,053	-62.1		24	12,545	-55.6		30	12,117	-49.0	
150	27	13,482	-51.9		29	13,623	-55.8		30	13,781	-58.5		29	13,781	-58.5		26	13,992	-66.5		22	13,530	-53.8		30	13,127	-49.0	
125	27	14,660	-52.9		29	14,782	-56.6		29	14,921	-60.6		29	14,922	[illegible]		24	15,087	-70.1		22	14,701	-54.0		29	14,326	-49.1	
100	25	16,095	-54.2		27	16,192	-58.2		24	16,297	-62.5		27	16,305	-62.7		21	16,408	-72.4		17	16,128	-56.0		28	[illegible]	-49.3	
80	23	17,518	-56.1		24	17,587	-60.2		23	17,669	-64.1		25	17,673	-64.4		17	17,716	-71.9		15	17,514	-58.3		26	17,257	-49.4	
60	20	19,346	-58.2		19	19,372	-59.8		19	19,425	-63.2		22	19,434	-63.0		14	19,429	-68.1		9	19,340	-58.3		24	19,140	-49.9	
50	17	20,503	-57.7		17	20,507	-60.1		17	20,552	-61.0		20	20,559	-60.2		13	20,529	-64.8		6	20,485	-58.9		24	20,330	-50.3	
40	16	21,913	-57.3		15	21,914	-58.9		16	21,952	-57.8		18	21,953	-57.0		12	21,901	-61.1						23	21,776	-50.3	
30	11	23,748	-55.9		12	23,716	-57.6		10	23,783	-53.2		17	23,786	-53.4										18	23,678	-50.2	

Standard pressure surface (mb)	LAKE CHARLES, LA. (1013 MB.)				LANDER, WYO. (823 MB.)				LAS VEGAS, NEV (934 MB.)				LITTLE ROCK, ARK. (1002 MB.)				MAZATLAN, MEXICO (1009 MB.)				MC GRATH, ALASKA (996 MB.)				MEDFORD, ORE. (968 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	5	20.0	82	30	1,696	5.5	47	30	660	18.8	13	30	79	18.5	66	30	14	22.2	75	30	103	- 2.3	60	30	401	8.7	66
1,000	30	114	20.7	75	30	66			30	64			30	98			30	94	21.5	70	30	68			30	132		
950	30	557	18.9	65	30	498			30	514			30	540	18.2	55	30	553	24.0	27	30	472	- 5.8	52	30	561	8.2	60
900	30	1,021	17.3	50	30	949			30	974	18.0		30	1,000	15.2	55	30	1,013	22.6	23	30	893	- 9.0	58	30	1,001	4.8	63
850	30	1,507	15.0	48	30	1,429			30	1,458	13.6	19	30	1,482	12.2	53	30	1,507	20.0		30	1,333	-11.6	61	30	1,464	[illegible]	67
800	30	2,018	12.7	43	30	1,927	5.9	37	30	1,964	9.0	23	30	1,987	9.2	51	30	2,027	17.1		30	1,795	-13.9	58	30	1,949	- 2.5	69
750	30	2,563	10.4	34	30	2,455	2.1	36	30	2,498	4.3	27	30	2,526	6.7	41	30	2,583	13.7		30	2,288	-16.4	56	30	2,461	- 5.9	70
700	30	3,129	7.2	28	30	3,005	- 2.3	40	30	3,050	- .4	30	30	3,082	3.3	37	30	3,151	10.2		30	2,799	-19.2	53	30	2,994	- 9.3	69
650	30	3,733	3.0	29	30	3,590	- 6.7	43	30	3,641	- 5.1	31	30	3,682	.9	34	30	3,768	6.1		30	3,353	-22.5	48	30	3,569	-12.7	62
600	30	4,377	- 1.3	29	30	4,208	-11.1	45	30	4,261	- 9.2	31	30	4,313	- 5.2	33	30	4,413	1.6		30	3,930	-25.9	44	30	4,170	-16.1	56
550	30	5,061	- 6.5		30	4,868	-15.9	45	30	4,933	-13.4	29	30	4,992	- 9.7	32	30	5,106	- 3.4		30	4,563	-29.5	46	30	4,823	-19.7	51
500	30	5,805	-11.9		30	5,581	-21.3	46	30	5,647	-18.5		30	5,718	-15.1		30	5,854	- 8.5		30	5,229	-33.7	49	30	5,521	-24.0	[illegible]
450	30	6,605	-17.7		30	6,354	-27.0	49	30	6,429	-24.5		30	6,514	-20.8		30	6,671	-14.4		29	5,970	-38.3		30	6,288	-29.1	45
400	30	7,470	-24.1		30	7,187	-33.4	48	30	7,271	-30.6		30	7,365	-27.1	35	30	7,544	-21.0		29	6,762	-43.0		30	7,114	-35.0	43
350	30	8,429	-31.2	37	30	8,110	-40.6		30	8,205	-37.5		30	8,313	-34.2		30	8,515	-28.7		29	7,651	-48.0		30	8,031	-41.3	
300	30	9,502	-39.3		29	9,139	-48.7		29	9,250	-45.0		30	9,374	-41.8		30	9,599	-37.3		29	8,658	-51.3		29	9,065	-47.7	
250	30	10,724	-48.8		28	10,321	-55.0		29	10,445	-52.7		30	10,587	-50.1		29	10,833	-47.1		28	9,835	-50.3		29	10,249	-53.9	
200	29	12,158	-57.3		27	11,736	-56.5		29	11,867	-56.7		30	12,018	-56.9		22	12,279	-57.7		28	11,298	-48.4		29	11,674	-55.1	
175	27	12,988	-60.4		27	12,584	-55.5		27	12,717	-56.3		28	12,857	-58.0		20	13,114	-63.1		28	12,177	-48.1		29	12,527	-54.2	
150	27	13,945	-61.9		25	13,569	-55.2		27	13,694	-57.0		28	13,827	-58.5		15	14,053	-68.0		28	13,191	-48.3		29	13,514	-54.2	
125	27	15,065	-64.6		24	14,733	-54.1		22	14,841	-58.6		28	14,964	-61.4		12	15,139	-70.9		27	14,396	-48.4		29	14,680	-54.7	
100	25	16,413	-67.9		22	16,153	-56.3		19	16,232	-60.8		25	16,336	-64.2		6	16,454	-74.9		26	15,868	-48.8		29	16,102	-56.2	
80	19	17,744	-69.1		19	17,564	-57.6		16	17,630	-61.5		24	17,695	-65.8						25	17,327	-49.5		28	17,512	-57.5	
60	11	19,460	-66.4		17	19,370	-59.3		12	19,421	-61.6		22	19,459	-63.0						24	19,201	-50.4		25	19,331	-57.8	
50	10	20,568	-63.1		12	20,523	-58.5		11	20,560	-60.0		20	20,579	-61.9						24	20,390	-50.0		19	20,478	-57.7	
40	8	21,964	-58.6		9	21,969	-56.8		9	21,955	-58.0		17	21,968	-58.7						19	21,852	-49.9		13	21,897	-58.5	
30	8	23,792	-53.7		5	23,822	-55.0		6	23,784	-54.5		13	23,777	-54.1													

Standard pressure surface (mb)	MIAMI, FLA. (1016 MB.)				MIDLAND, TEX. (912 MB.)				NANTUCKET, MASS (1011 MB.)				NASHVILLE, TENN. (994 MB.)				NOME, ALASKA (1009 MB.)				NORTH PLATTE, NEBR. (911 MB.)				NORTHWAY, ALASKA (943 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	4	23.0	74	30	871	20.1	25	30	14	5.4	90	30	177	17.1	67	30	7	- 7.0	77	30	848	11.2	53	30	524	0.9	49
1,000	30	143	22.5	73	30	58			30	107			30	120			30	73			30	58			30	48		
950	30	587	19.6	71	30	511			30	533	7.6	66	30	561	16.9	52	30	472	- 9.7	66	30	500			30	465		
900	30	1,052	16.4	69	30	981	21.1	26	30	975	7.1	62	30	1,018	13.7	54	30	886	-10.9	65	30	952			30	894	- 2.2	45
850	30	1,536	13.8	63	30	1,473	18.2		30	1,443	5.1	59	30	1,496	10.2	55	30	1,323	-12.7	63	30	1,430	10.8	39	30	1,344	- 6.0	51
800	30	2,045	11.2	56	30	1,988	15.0		30	1,936	2.5	56	30	1,998	7.6	44	30	1,784	-14.3	57	30	1,932	7.2	40	30	1,815	- 9.6	57
750	30	2,588	8.9	41	30	2,535	10.9		30	2,461	- .4	56	30	2,535	4.8	46	30	2,276	-16.5	53	30	2,467	3.7	41	30	2,315	-13.0	57
700	30	3,150	6.0	35	30	3,101	6.4	21	30	2,871	- 3.7	53	30	3,086	1.6	43	30	2,787	-19.0	49	30	3,016		39	30	2,832	-16.7	54
650	30	3,758	2.7		30	3,704	1.6		30	3,590	- 7.0	48	30	3,683	- 1.9	41	30	3,339	-22.2	48	30	3,610	- 4.2	37	30	3,392	-20.4	52
600	30	4,397	- 1.4		30	4,343	- 3.3		30	4,206	-10.8	43	29	4,310	- 6.0	38	30	3,919	-25.5	48	30	4,231	- 8.7	38	30	3,972	-24.4	52
550	30	5,083	- 5.7		30	5,023	- 8.4		30	4,872	-14.9		29	4,989	-10.6	37	30	4,547	-29.2	46	30	4,900	-13.8	37	30	4,605	-28.6	53
500	30	5,825	-10.5		30	5,756	-14.2		30	5,584	-19.5		29	5,711	-15.9	39	30	5,220	-33.5	43	30	5,615	-19.1	34	30	5,276	-33.1	53
450	30	6,635	-16.1		30	6,556	-20.2		30	6,366	-24.7		29	6,504	-21.6		30	5,958	-38.1		30	6,397	-24.6		30	6,017	-38.3	
400	30	7,505	-22.8		30	7,409	-26.3		30	7,206	-30.9		29	7,353	-27.7		30	6,754	-42.8		30	7,236	-31.1		30	6,810	-43.5	
350	30	8,468	-30.4		30	8,359	-33.7		30	8,139	-37.8		29	8,298	-34.8		30	7,645	-47.9		30	8,167	-38.3		30	7,695	-49.4	
300	30	9,544	-39.1		30	9,421	-41.6		30	9,183	-45.4		28	9,355	-42.6		30	8,651	-52.0		30	9,209	-45.7		30	8,696	-52.4	
250	30	10,767	-48.2		30	10,632	-50.1		30	10,377	-53.3		28	10,562	-51.2		30	9,829	-51.6		29	10,402	-52.8		30	9,875	-50.4	
200	30	12,208	-56.6		30	12,065	-56.8		30	11,797	-57.1		28	11,989	-57.4		30	11,286	-49.0		29	11,827	-55.9		29	11,341	-48.2	
175	29	13,047	-60.0		30	12,906	-58.3		30	12,640	-57.3		27	12,825	-57.6		30	12,164	-48.5		29	12,677	-55.6		29	12,221	-47.7	
150	28	13,999	-63.6		29	13,875	-60.5		30	13,617	-56.0		25	13,795	-58.5		30	13,178	-48.3		28	13,658	-55.3		29	13,238	-47.7	
125	27	15,106	-67.4		27	14,999	-63.3		30	14,774	-56.6		24	14,933	-60.7		30	14,378	-48.4		28	14,816	-57.3		29	14,438	-48.8	
100	25	16,437	-71.3		23	16,367	-66.7		25	16,175	-57.8		21	16,309	-62.7		29	15,844	-49.0		25	16,220	-58.6		29	15,899	-50.0	
80	22	17,744	-73.0		17	17,706	-68.8		21	17,567	-59.6		17	17,682	-64.6		[illegible]	17,309	-49.0		23	17,611	-60.7		29	17,354	-51.1	
60	15	19,441	-67.9		15	19,434	-65.2		17	19,344	-59.2		15	19,437	-62.7		28	19,198	-49.2		20	19,391	-61.2		29	19,222	-51.5	
50	14	20,553	-63.2		14	20,552	-62.0		17	20,488	-58.4		14	20,562	-60.7		26	20,398	-49.3		16	20,524	-60.3		28	20,409	-52.0	
40	13	21,932	-59.2		14	21,942	-58.5		13	21,892	-56.3		13	21,953	-58.3		20	21,831	-49.3		15	21,912	-59.3		26	21,852	-51.7	
30	12	23,744	-55.0		12	23,780	-53.5		9	23,713	-53.9		9	23,760	-54.8		20	23,717	-49.6		5	23,786	-56.1		21	23,714	-52.0	
20	5	26,329	-50.4																						5	26,371	-51.5	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

APRIL 1955

Standard pressure surface (mb.)	OAKLAND, CALIF. (1017 MB.)				OKLAHOMA CITY, OKLA. (964 MB.)				OMAHA, NEBR. (962 MB.)				PHOENIX, ARIZ. (971 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	6	11.1	67	30	391	17.2	60	30	403	14.2	53	30	341	22.6	21
1,000	30	148	10.2	66	30	76			30	70			30	82		
950	30	577	8.1	62	30	519	18.6	51	30	510	15.9	46	30	527	22.7	
900	30	1,018	5.8	58	30	981	16.3	49	30	965	13.3	47	30	998	19.0	
850	30	1,484	3.4	53	30	1,464	13.5	45	30	1,443	9.9	48	30	1,484	14.9	
800	30	1,973	.7	51	30	1,972	10.7	38	30	1,944	6.7	49	30	1,992	10.7	
750	30	2,497	- 1.9	48	30	2,513	7.4	35	30	2,479	3.6	48	30	2,526	6.2	
700	30	3,035	- 4.6	40	30	3,070	3.5	32	30	3,027	- .2	44	30	3,086	1.8	
650	30	3,620	- 7.8	39	30	3,668	- .8	32	30	3,626	- 3.9	37	30	3,683	- 2.1	
600	30	4,234	-11.3	38	30	4,299	- 5.4	32	30	4,243	8.4	34	30	4,310	- 6.3	
550	30	4,903	-15.4	37	30	4,978	-10.2	33	30	4,921	-13.1	33	30	4,985	-10.5	
500	30	5,609	-20.1		30	5,702	-15.8		30	5,631	-18.1		30	5,711	-15.5	
450	30	6,392	-25.8		30	6,497	-21.8		30	6,424	-23.9		30	6,503	-21.5	
400	30	7,224	-31.9		30	7,342	-28.1		30	7,257	-30.6		30	7,355	-27.9	
350	30	8,154	-39.0		30	8,286	-35.0		30	8,190	-38.1		30	8,298	-35.2	
300	30	9,193	-46.7		30	9,342	-42.7		30	9,233	-45.9		30	9,354	-43.2	
250	30	10,380	-54.5		30	10,550	-50.1		29	10,423	-53.9		29	10,561	-51.6	
200	29	11,792	-57.9		30	11,985	-55.0		26	11,835	-57.4		28	11,985	-56.8	
175	29	12,636	-56.6		29	12,832	-56.3		25	12,678	-56.1		28	12,830	-57.2	
150	29	13,614	-56.4		29	13,807	-57.7		22	13,660	-56.1		26	13,798	-57.8	
125	27	14,766	-58.0		28	14,947	60.1		21	14,811	-57.2		23	14,938	-60.4	
100	26	16,166	-59.6		27	16,325	-63.5		17	16,208	-60.5		23	16,319	-63.2	
80	24	17,559	-60.8		23	17,688	-63.7		16	17,590	-62.3		21	17,698	-63.7	
60	19	19,350	-60.0		22	19,451	-62.5		14	19,375	-61.2		17	19,464	-63.3	
50	19	20,490	59.1		21	20,578	-60.7		12	20,514	-60.4		15	20,591	-61.1	
40	16	21,889	-58.1		18	21,974	-57.3		10	21,913	-59.1		13	21,991	-57.3	
30	13	23,716	-55.1		9	23,797	-54.1						9	23,830	-53.0	

Standard pressure surface (mb.)	PITTSBURGH, PA. (973 MB.)				PORTLAND, ME. (1012 MB.)				RAPID CITY, S. DAK. (897 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	353	12.1	67	30	20	5.4	77	29	966	8.7	52
1,000	30	119			30	118	6.5	69	29	52		
950	30	558	11.8	63	30	540	5.1	64	29	490		
900	30	1,003	9.6	60	30	978	3.3	64	29	939		
850	30	1,475	6.6	61	30	1,440	1.7	63	29	1,416	9.2	41
800	30	1,970	3.5	61	30	1,927	- .6	62	29	1,915	5.8	44
750	30	2,496	.5	56	30	2,442	- 2.8	58	29	2,443	2.1	47
700	30	3,042	- 2.7	51	30	2,985	- 5.6	56	29	2,992	- 2.0	49
650	30	3,620	- 6.1	43	30	3,567	- 8.5	53	29	3,581	- 6.4	50
600	30	4,248	- 9.7	42	30	4,180	-12.2	47	28	4,196	-11.0	50
550	30	4,918	-14.0		30	4,842	-16.5	45	28	4,860	-15.8	46
500	30	5,631	-19.2	39	30	5,549	-21.4	43	27	5,568	-21.2	
450	30	6,411	-25.0	39	30	6,320	-26.8	42	27	6,343	-27.3	
400	30	7,250	-31.4	40	29	7,154	-32.7	44	27	7,172	-33.8	
350	30	8,181	-38.4		28	8,075	-39.5		27	8,094	-40.7	
300	30	9,223	-46.1		27	9,116	-46.7		26	9,124	-48.0	
250	30	10,412	-53.9		27	10,306	-53.0		25	10,310	-55.0	
200	30	11,827	-58.1		27	11,731	-56.0		25	11,724	-57.1	
175	30	12,668	-57.6		26	12,574	-55.9		24	12,571	-55.2	
150	29	13,641	-57.2		23	13,559	-54.7		24	13,554	-55.0	
125	27	14,792	-58.5		23	14,724	-55.0		24	14,718	-55.4	
100	25	16,183	-60.6		21	16,152	-56.8		22	16,131	-57.8	
80	23	17,556	-62.0		19	17,552	-58.7		21	17,539	-59.6	
60	19	19,332	-61.4		18	19,358	-58.5		18	19,327	-59.6	
50	16	20,452	-60.1		17	20,511	-57.5		13	20,471	-59.3	
40	14	21,840	-58.1		13	21,930	-55.6		10	21,856	-58.8	
30	9	23,642	-54.5		7	23,775	-54.9		6	23,675	-57.5	

Standard pressure surface (mb.)	ST CLOUD, MINN. (973 MB.)				SAN ANTONIO, TEX. (983 MB.)				SAN JUAN, P. R. (1014 MB.)				SANTA MARIA, CALIF. (1008 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	316	9.7	67	30	243	22.6	54	30	19	23.9	77	30	74	10.0	71
1,000	30	85			30	91			30	144	23.2	74	30	143	9.9	70
950	30	518	11.4	56	30	544	21.2	55	30	590	20.1	75	30	574	9.7	58
900	30	965	8.8	56	30	1,005	18.9	55	30	1,055	17.2	71	30	1,018	9.0	45
850	30	1,436	6.7	54	30	1,495	17.0	50	30	1,541	14.4	67	30	1,489	6.7	44
800	30	1,932	4.1	51	30	2,009	14.4	43	30	2,051	11.6	59	30	1,984	3.7	44
750	30	2,456	1.1	48	30	2,556	11.4	36	30	2,597	9.2	45	30	2,509	1.2	37
700	30	3,006	- 2.2	43	30	3,124	8.1		30	3,158	6.4	40	30	3,058	- 1.6	33
650	30	3,594	- 5.9	40	30	3,741	4.3		30	3,772	4.0		30	3,648	- 4.7	
600	30	4,213	- 9.8	40	30	4,377	- .6		30	4,410	.9		30	4,270	- 8.2	
550	30	4,880	-14.2	40	30	5,083	- 5.9		30	5,103	- 3.1		30	4,942	-12.5	
500	30	5,595	-19.4	42	30	5,805	-11.7		30	5,851	- 8.0		30	5,660	-17.4	
450	30	6,375	-25.1	38	30	6,611	-17.7		30	6,668	-13.7		30	6,447	-23.2	
400	30	7,214	-31.4		30	7,474	-24.3		30	7,546	-20.3		30	7,291	-30.2	
350	30	8,145	-38.9		30	8,432	-31.5		30	8,520	-27.4		30	8,226	-37.7	
300	30	9,184	-46.9		30	9,504	-39.8		30	9,612	-34.6		30	9,271	-45.7	
250	30	10,370	-54.6		30	10,722	-49.5		30	10,861	-43.7		30	10,461	-53.8	
200	30	11,781	-58.0		30	12,153	-57.5		30	12,325	-54.4		29	11,881	-58.3	
175	30	12,625	-56.0		30	12,990	-60.4		30	13,168	-60.4		28	12,721	-57.5	
150	30	13,609	-54.4		29	13,942	-62.6		30	14,113	-66.9		28	13,694	-57.5	
125	30	14,775	-55.2		28	15,056	-65.7		30	15,198	-72.4		28	14,839	-59.7	
100	28	16,195	-57.0		28	16,399	-69.1		29	16,495	-76.1		28	16,226	-61.3	
80	26	17,597	-59.2		18	17,725	-71.2		25	17,776	-76.0		28	17,606	-62.3	
60	19	19,395	-59.5		12	19,425	-66.4		20	19,463	-68.5		23	19,390	-61.1	
50	19	20,535	-59.5		11	20,534	-63.3		19	20,566	-64.2		22	20,523	-59.6	
40	17	21,934	-58.8		10	21,919	-58.8		18	21,948	-59.3		19	21,930	-57.2	
30	9	23,713	-57.3		7	23,751	-53.7		15	23,773	-54.3		12	23,752	-54.5	
20									5	26,408	-50.0					

Standard pressure surface (mb.)	S STE. MARIE (988 MB.)				SPOKANE, WASH. (929 MB.)				SWAN ISLAND, W. I. (1012 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	221	5.4	75	30	722	5.6	61	30	10	25.9	76
1,000	30	119			30	109			30	116	25.4	76
950	30	546	7.2	63	30	540			30	569	21.7	79
900	30	985	6.3	61	30	977	4.8	54	30	1,034	19.1	65
850	30	1,451	3.8	61	30	1,440	1.1	56	30	1,524	16.2	60
800	30	1,941	1.3	58	30	1,924	- 2.9	61	30	2,037	13.7	42
750	30	2,465	- 1.2	50	30	2,439	- 6.8	66	30	2,587	11.5	30
700	30	3,006	- 3.9	47	30	2,966	-10.6	68	30	3,153	9.7	
650	30	3,592	- 6.8	41	30	3,544	-14.1	58	30	3,770	6.7	
600	29	4,211	-10.5	36	30	4,135	-17.8	52	30	4,418	3.1	
550	29	4,876	-14.9	36	30	4,785	-22.0	53	30	5,118	- .9	
500	29	5,589	-20.0	35	30	5,475	-26.6	53	30	5,871	- 5.9	
450	29	6,366	-25.6		30	6,234	-31.8	53	30	6,697	-11.5	
400	29	7,205	-31.9		30	7,049	-37.6	56	30	7,580	-18.3	
350	29	8,135	-39.0		30	7,957	-44.4		30	8,561	-25.9	
300	28	9,179	-46.8		28	8,984	-50.1		29	9,655	-34.4	
250	27	10,359	-54.6		28	10,162	-53.6		29	10,903	-43.8	
200	23	11,776	-58.6		28	11,597	-53.1		29	12,365	-54.6	
175	22	12,618	-56.2		28	12,459	-51.7		28	13,206	-60.6	
150	21	13,593	-55.3		28	13,459	-51.4		27	14,151	-66.6	
125	18	14,747	-54.7		28	14,640	-52.1		25	15,235	-72.3	
100	16	16,176	-56.7		27	16,080	-53.6		23	16,527	-77.0	
80	14	17,585	-58.9		26	17,509	-54.6		16	17,806	-76.9	
60	7	19,354	-59.5		24	19,342	-56.6		10	19,508	-69.2	
50	6	20,485	-59.2		17	20,514	-56.3		8	20,606	-64.0	
40					14	21,930	-56.0		6	21,987	-60.2	
30					7	23,713	-56.6					
20												

Standard pressure surface (mb.)	TACUBAYA, MEXICO (772 MB.)				TAMPA, FLA. (1016 MB.)				TATOOSH ISLAND, WASH. (1010 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	2,306	21.4	29	30	7	20.4	79	30	31	6.5	80
1,000	28	13			30	146	20.9	75	30	116	6.0	77
950	28	463			30	592	19.0	65	30	539	3.7	71
900	28	950			30	1,052	16.4	63	30	971	.7	74
850	28	1,451			30	1,536	13.4	61	30	1,428	- 2.5	73
800	28	1,990			30	2,044	11.0	47	30	1,906	- 5.5	68
750	28	2,553	19.8	29	30	2,590	8.7	38	30	2,412	- 8.7	61
700	28	3,139	14.9	32	30	3,148	5.9	28	30	2,941	-12.3	57
650	28	3,762	9.6	39	30	3,761	2.3		29	3,500	-16.5	57
600	28	4,418	3.9	49	30	4,392	- 1.7		29	4,092	-20.6	54
550	28	5,121	- 1.8	49	30	5,082	6.3		29	4,732	-24.8	50
500	28	5,869	- 7.3	43	30	5,817	-11.2		29	5,417	-29.4	50
450	26	6,690	-12.6		30	6,633	-17.2		28	6,166	-34.3	46
400	26	7,570	-18.6		30	7,489	-23.7		28	6,977	-39.7	
350	24	8,549	-26.1		30	8,450	-31.4		28	7,879	-44.5	
300	22	9,642	-34.9		30	9,522	-39.6		28	8,900	-48.8	
250	19	10,887	-44.8		29	10,743	-49.0		28	10,091	-50.3	
200	13	12,346	-54.6		29	12,178	-57.5		28	11,542	-51.0	
175	12	13,187	-60.5		29	13,014	-60.5		26	12,416	-50.7	
150	9	14,137	-67.4		28	13,967	-63.2		26	13,420	-50.4	
125	8	15,228	-69.4		28	15,077	-66.7		26	14,605	-51.5	
100	6	16,554	-70.8		27	16,412	-70.5		24	16,049	-53.1	
80	5	17,849	-71.6		25	17,733	-72.2		22	17,480	-54.4	
60					17	19,442	66.4		21	19,317	-55.1	
50					15	20,556	-62.7		20	20,481	-55.7	
40					13	21,945	-58.0		17	21,900	-56.0	
30					12	23,780	-53.0		11	23,730	-55.4	
20												
15												

Standard pressure surface (mb.)	VERACRUZ, MEXICO (1007 MB.)				WASHINGTON, D. C. (1004 MB.)				YAKUTAT, ALASKA (1007 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	29	13	25.5	86	30	88	12.9	65	30	12	3.5	77
1,000	29	77	25.0	85	30	124			30	66		
950	29	533	25.4	65	30	561	12.7	61	30	482	.3	67
900	29	1,004	23.6	59	30	1,009	10.7	64	30	911	- 2.9	65
850	29	1,502	20.6	55	30	1,483	7.8	64	30	1,361	- 6.2	65
800	29	2,023	17.5	51	30	1,980	4.6	62	30	1,832	- 9.4	65
750	29	2,583	14.8	38	30	2,510	1.4	62	30	2,329	-12.8	64
700	28	3,154	11.6	31	30	3,055	- 2.0	57	30	2,850	-16.2	62
650	27	3,776	7.6	31	30	3,642	- 5.5	54	30	3,410	-20.0	59
600	27	4,424	3.0	32	30	4,264	- 9.2	47	30	3,992	-24.0	58
550	27	5,123	- 1.6		30	4,933	-13.2	39	29	4,624	-28.1	58
500	26	5,875	- 6.7		30	5,652	-18.1	38	29	5,299	-32.8	57
450	25	6,701	-12.7		30	6,436	-23.8		29	6,039	-37.7	
400	24	7,578	-19.7		30	7,279	-30.2	42	29	6,836	-43.2	
350	24	8,555	-27.3		30	8,215	-37.4	43	29	7,725	-48.1	
300	23	9,643	-36.2		29	9,264	-45.3		29	8,733	-50.4	
250	23	10,881	-46.1		29	10,458	-53.2		29	9,922	-49.2	
200	22	12,327	-57.4		28	11,873	-58.3		29	11,389	-47.7	
175	19	13,166	-63.4		28	12,712	-58.0		29	12,271	-47.4	
150	16	14,109	-69.1		28	13,684	-57.5		28	13,284	-48.4	
125	14	15,181	-74.4		28	14,832	-58.4		27	14,477	-49.1	
100	7	16,456	-78.2		26	16,226	-60.9		27	15,937	-50.2	
80	6	17,728	-76.7		25	17,609	-62.1		24	17,387	-51.1	
60					22	19,387	-61.7		22	19,252	-52.2	
50					22	20,521	-59.6		17	20,451	-53.2	
40					22	21,922	-57.3		10	21,955	-53.2	
30					20	23,757	-53.7					
20					16	26,404	-48.8					
15					6	28,294	-45.3					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for December 1954

Standard pressure surface (mb)	DENVER, COLO. (834 MB.)				FT. WORTH, TEXAS (997 MB.)				OGDEN, UTAH (859 MB.)				RANTOUL, ILL. (990 MB.)				ROME, N. Y. (996 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,661	- 1.1	44	31	173	10.0	64	31	1,450	- 1.7	66	31	227	- 0.1	81	31	146	[illegible]	74
1,000	31	173			31	153			31	217			31	148			31	118		
950	31	600			31	587	10.7	51	31	637			31	561	.8	80	31	525	- 3.9	77
900	31	1,044			31	1,030	8.7	51	31	1,073			31	[illegible]	- 1.8	74	31	948	- 6.4	78
850	31	1,505			31	1,502	7.6	45	31	1,532	- .3	62	31	1,443	[illegible]	64	31	1,394	- 7.5	77
800	31	1,996	3.5	38	31	2,000	5.9	37	31	2,016	- 1.2	51	31	1,923	[illegible]	58	31	1,865	- 8.6	73
750	31	2,523	.6	35	31	2,535	3.0	35	31	2,537	3.4	47	31	2,436	[illegible]	54	31	2,368	-10.0	68
700	31	3,067	3.1	36	31	3,081	.2	33	31	3,072	- 6.0	46	31	2,971	- 7.6	[illegible]	31	2,893	-12.6	63
650	31	3,656	- 7.1	37	31	3,680	3.2	32	31	3,654	- 8.7	45	31	3,548	-10.6	52	31	3,459	-15.4	59
600	31	4,269	-11.3	38	31	4,300	- 7.1	[illegible]	31	4,266	-12.5	46	31	4,156	-13.8	[illegible]	31	4,056	-19.0	[illegible]
550	31	4,935	-15.7	37	31	4,981	-11.6	31	31	4,926	-16.7	44	31	4,815	-17.8	42	31	4,697	-22.4	53
500	31	5,645	-20.4		31	5,697	-16.4	32	31	5,633	-21.6	46	31	5,518	-22.6	[illegible]	31	5,391	-27.2	
450	31	6,422	-26.1		31	6,494	-22.0		31	6,408	-26.4	[illegible]	31	6,287	-27.9	[illegible]	31	6,145	-32.1	
400	31	7,258	-32.3		31	7,337	-28.1		31	7,244	-32.1		31	7,120	-34.0		31	6,965	-37.0	
350	31	8,186	-39.3		31	8,280	-35.1		31	8,171	-39.3		31	8,041	-40.4		31	7,878	-41.9	
300	31	9,225	-46.6		31	9,335	-43.0		31	9,208	46.9		31	9,076	-46.9		31	8,906	-47.6	
250	31	10,415	-53.4		31	10,538	-52.0		31	10,396	-54.0		31	10,267	-52.6		31	10,102	-50.4	
200	30	11,827	-57.9		30	11,953	-58.7		29	11,806	-58.1		29	11,696	-53.9		31	11,552	-51.5	
175	29	12,663	-58.1		30	12,789	-59.4		27	12,661	-58.0		27	12,553	-53.4		31	12,417	-51.1	
150	29	13,634	-58.3		28	13,736	-61.0		27	13,632	-58.0		21	13,514	-54.4		28	13,407	-52.1	
125	28	14,774	-58.8		26	14,854	-62.9		23	14,799	-59.0		22	14,716	-55.7		22	14,566	-52.9	
100	27	16,174	-59.1		22	16,210	-65.1		19	16,182	-59.2		17	16,119	-57.3		18	15,999	-55.1	
80	27	17,571	-60.2		16	17,566	-66.6		15	17,582	-59.2		15	17,524	-58.2		16	17,415	-56.1	
60	21	19,370	-59.9		13	19,313	-63.5		12	19,382	-58.3		7	19,323	-58.8		10	19,197	-57.1	
50	16	20,519	-59.2		11	20,414	-63.7		12	20,529	-58.1		7	20,467	-58.8		10	20,351	-56.6	
40	11	21,928	-58.7		10	21,770	-62.7		8	21,920	-58.2		6	21,874	[illegible]		6	21,719	-56.8	
30	8	23,756	57.6		8	23,538	-61.1		6	23,740	-57.5									

* January 1955 data for the above Air Force stations will be included in the May issue of this publication.

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

Altitude (meters) m s l	Abilene, Tex. (5[illegible] m.)			Albuquerque, N. Mex. (1,627 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (50[illegible] m.)			[1] Boise, Idaho (86[illegible] m.)			Brownsville, Tex. ([illegible] m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	[illegible]	1[illegible]	2.1	30	233	[illegible]	[illegible]	286	[illegible]	29	21[illegible]	1.5	30	215	0.5	30	135	6.7
500			-					- -							--	28	146	6.9
1,000	19	19[illegible]	3.0			-	- -	-		26	203	2.2	30	257	.3	26	171	6.0
1,500	27	19[illegible]	[illegible]				28	262	3.1	21	20[illegible]	3.8	30	235	1.4	22	198	3.7
2,000	2[illegible]	217	4.4	30	233	5.7	27	252	3.7	22	223	6.6	30	236	2.8	20	224	3.1
2,500	2[illegible]	228	6.5	28	230	5.0	25	239	5.0	22	233	7.7	30	233	4.9	17	243	3.8
3,000	23	24[illegible]	7.6	26	24[illegible]	6.[illegible]	24	229	6.4	20	240	7.6	30	244	6.4	17	259	4.9
4,000	20	238	12.2	20	257	10.2	15	246	8.6	16	245	8.6	30	247	8.3	12	271	8.1
5,000	14	273	16.0	18	260	14.2	11	239	9.7	11	249	8.6	30	240	10.7	11	273	10.0
6,000	1[illegible]	286	18.5	16	2[illegible]5	20.0	11	252	12.4	10	217	6.6	30	237	12.6			
8,000				12	263	22.6							25	241	15.3			
10,000													15	272	6.3			
12,000													13	274	8.1			
14,000													12	277	9.5			
16,000													11	235	8.5			

Altitude (meters) m s l	2 Buffalo, N. Y. ([illegible] m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (27[illegible] m.)			El Paso, Tex. (1,198 m.)			* Ely, Nev. (1,910 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	230	0.3	29	321	1.1	29	198	3.2	29	234	1.8	30	247	5.9	30	212	3.0
500	29	260	.9	29	282	1.5	28	221	3.6	29	233	2.7		-	---		- -	-
1,000	29	292	3.4	23	322	3.9	28	254	4.1	29	238	4.3		-	-	--	-	-
1,500	29	302	5.4	21	317	4.9	25	279	5.9	21	244	5.9	30	244	5.9	-	---	- -
2,000	29	308	6.4	16	319	7.7	22	287	7.[illegible]	21	249	6.8	30	251	6.0	30	219	3.2
2,500	29	308	7.7	15	322	10.0	21	285	8.1	16	258	5.9	30	247	6.9	30	233	4.7
3,000	29	307	8.8	15	323	11.8	19	287	9.3	16	269	6.4	29	250	9.0	30	239	4.8
4,000	30	307	10.2	11	323	11.6	15	277	11.6	14	286	8.4	27	260	12.7	30	250	5.1
5,000	29	305	11.9	10	325	14.9	11	291	10.9	11	306	12.0	25	260	17.0	30	264	8.5
6,000	28	311	13.1							10	31[illegible]	14.6	23	25[illegible]	20.0	27	265	11.8
8,000	28	305	15.2										18	259	25.7	20	292	16.3
10,000	27	299	19.7										11	269	25.6			
12,000	26	297	22.5															
14,000	24	301	17.4															
16,000	22	309	11.8															

Altitude (meters) m s l	* Ft. Huachuca, Ariz (1,428 m.)			Grand Junction, Colo (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (27[illegible] m.)			Havre, Mont (767 m.)			Jacksonville, Fla (16 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	16	233	6.0	30	222	4.7	29	230	0.7	29	241	2.4	28	266	2.7	30	108	2.1
500		---	-	--	---		29	228	1.0	29	249	3.5	-	-	-	30	177	1.9
1,000	-		-			-	27	205	2.0	28	255	4.7	28	256	4.1	30	226	2.8
1,500	16	238	5.9	30	223	4.8	22	247	3.9	27	262	5.9	26	252	5.2	27	252	3.0
2,000	16	244	8.8	29	233	4.7	21	277	4.9	25	273	7.3	24	247	6.2	22	283	4.2
2,500	16	242	9.7	27	232	5.3	19	292	6.0	23	290	8.4	22	246	7.5	19	300	4.7
3,000	16	241	11.6	25	235	5.4	19	302	5.8	23	295	9.4	19	240	8.6	17	306	5.7
4,000	16	217	15.9	20	253	7.2	16	308	8.1	21	294	12.2	14	251	9.2	16	296	8.0
5,000	15	249	19.2	15	2[illegible]	11.9	15	310	10.1	16	301	12.8	10	251	9.8	12	309	9.7
6,000	15	259	23.9	13	2[illegible]	15.[illegible]	15	305	12.9	16	296	15.6						
8,000	15	252	28.7	10	262	15.5	11	306	20.2									
10,000	15	248	39.3															
12,000	13	247	45.2															
14,000	10	250	40.1															
16,000																		

Altitude (meters) m s l	Little Rock, Ark. ([illegible]8 m.)			* Medford, Ore (116 m.)			Miami, Fla. (2 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			3 Oakland, Calif. (8 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	28	167	1.7	30	303	2.2	30	119	4.1	27	196	1.6	30	239	1.4	30	258	4.4
500	28	205	2.8	29	300	2.2	30	131	4.1	27	213	2.6	30	213	2.6	30	273	3.8
1,000	28	219	4.1	29	274	2.0	28	168	1.2	24	261	2.1	29	218	3.7	30	274	3.0
1,500	25	237	5.9	30	228	3.1	25	291	2.9	20	305	2.9	29	235	4.5	30	258	3.4
2,000	24	247	7.4	30	222	5.3	23	290	3.9	17	316	4.2	27	252	4.7	30	253	4.6
2,500	24	250	8.0	30	228	6.7	20	316	4.4	17	307	4.4	24	257	6.3	30	258	6.0
3,000	23	258	8.4	30	239	8.3	20	308	4.1	15	306	6.0	22	255	7.4	30	260	7.4
4,000	21	26[illegible]	10.2	30	251	11.1	17	300	5.9	14	315	10.0	19	261	8.9	30	271	10.7
5,000	14	280	16.6	29	250	12.3	17	302	8.6	11	303	12.5	17	266	11.4	30	275	13.7
6,000	10	291	17.3	27	260	13.6	17	303	11.9				13	276	15.1	30	273	16.6
8,000				18	277	15.8										30	273	20.6
10,000				11	276	8.6										28	278	23.6
12,000				10	292	10.9										27	271	22.4
14,000																27	269	20.0
16,000																26	268	14.6

Altitude (meters) m s l	Omaha, Nebr. (306 m.)			Phoenix Ariz (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn (318 m.)			St Louis, Mo (181 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	172	1.7	30	248	2.6	29	239	1.7	29	174	1.8	29	182	1.1
500	30	169	2.0	30	250	3.1	-	--	----	29	173	2.8	29	204	1.9
1,000	30	172	2.8	30	250	3.4	29	250	1.7	28	189	3.4	27	196	3.3
1,500	27	193	5.0	30	242	3.2	28	254	2.0	27	204	3.8	26	220	4.5
2,000	25	215	6.3	29	234	3.6	27	244	3.1	25	221	3.9	22	233	4.9
2,500	24	231	6.8	29	247	4.4	24	237	5.6	24	240	4.3	19	262	5.0
3,000	22	234	8.8	29	253	6.1	24	242	8.0	21	259	4.5	19	279	5.0
4,000	22	238	10.9	28	252	10.5	22	246	10.8	19	271	7.4	16	288	6.6
5,000	20	244	13.3	28	253	15.3	15	263	8.2	17	284	7.8	13	296	9.8
6,000	17	249	12.1	23	251	16.1	14	27[illegible]	9.2	17	284	8.8	11	298	10.2
8,000	15	267	14.0	16	261	19.7				14	277	10.5			
10,000															
12,000															
14,000															
16,000															

Altitude (meters) m s l	San Antonio, Tex (240 m.)			San Diego, Calif. (13 m.)			4 Sault Ste Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			5 Washington, D. C. (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	29	161	2.9	30	283	4.2	30	287	0.4	28	219	4.5	30	302	0.8
500	29	153	3.5	30	286	4.2	30	257	.1	-	---	----	30	271	2.2
1,000	28	157	3.3	29	266	1.9	30	233	.7	28	226	6.0	30	278	4.7
1,500	28	180	2.8	27	254	1.6	30	256	2.1	27	232	6.1	30	283	6.0
2,000	23	234	5.0	27	264	2.7	30	273	3.0	23	238	5.1	30	288	7.7
2,500	23	243	7.0	27	273	4.5	30	281	4.1	16	235	5.8	30	290	9.8
3,000	23	248	8.7	26	279	6.4	30	284	5.9	12	236	6.4	30	294	10.7
4,000	20	254	11.3	25	276	10.4	30	291	8.1				30	289	11.9
5,000	17	257	13.9	25	263	12.9	30	294	9.5				30	284	13.0
6,000	14	265	17.9	24	261	15.4	30	288	10.9				30	286	13.9
8,000				20	267	18.6	29	292	14.7				30	284	17.4
10,000				16	274	21.1	29	290	17.2				30	281	22.0
12,000							26	279	16.7				30	283	24.2
14,000							23	283	14.7				30	291	20.7
16,000							19	283	9.7				28	290	14.0

* Rawin Data

1. Rawin Data (Cont'd.)

18,000 m., 11 obs., 235 dir., 4.7 speed
20,000 m., 10 obs., 231 dir., 3.1 speed

2 Rawin Data (Cont'd.)

18,000 m., 22 obs., 310 dir., 6.4 speed
20,000 m., 19 obs., 309 dir., 4.9 speed
22,000 m., 17 obs., 315 dir., 3.2 speed
24,000 m., 10 obs., 308 dir., 6.2 speed

3 Rawin Data (Cont'd.)

18,000 m., 25 obs., 256 dir., 9.5 speed
20,000 m., 23 obs., 237 dir., 6.6 speed
22,000 m., 19 obs., 250 dir., 2.2 speed
24,000 m., 15 obs., 250 dir., 5.1 speed
26,000 m., 11 obs., 252 dir., 8.9 speed

4 Rawin Data (Cont'd.)

18,000 m., 15 obs., 293 dir., 6.8 speed

5. Rawin Data (Cont'd.)

18,000 m., 27 obs., 310 dir., 6.3 speed
20,000 m., 26 obs., 310 dir., 3.3 speed
22,000 m., 25 obs., 279 dir., 3.4 speed
24,000 m., 20 obs., 272 dir., 6.2 speed
26,000 m., 12 obs., 267 dir., 11.0 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T., directions in degrees from north (N - 360°, E - 90°, S - 180°, W - 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Table 22

Altitude (meters) m s l	Albuquerque, N. Mex. (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Barrow, Alaska [illegible]			Bismarck, N. Dak. [illegible]		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	278	0.8	31	245	[illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	95	[illegible]
500				30	[illegible]	[illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,000				[illegible]	98	2.1	25	[illegible]	2.1	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,500	--	--	--	29	129	2.6	25	162	3.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2,000	30	279	4.7	29	161	2.9	25	172	4.[illegible]	29	118	[illegible]	[illegible]	[illegible]	[illegible]
2,500	30	277	6.5	29	159	3.8	2[illegible]	186	4.1	[illegible]	[illegible]	[illegible]	27	250	[illegible]
3,000	29	265	9.1	29	159	[illegible]	2[illegible]	[illegible]	4.5	29	[illegible]	[illegible]	26	252	[illegible]
4,000	24	256	10.2	29	168	4.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2[illegible]	213	[illegible]
5,000	22	256	[illegible]	29	195	3.[illegible]	24	214	5.7	[illegible]	237	2.4	2[illegible]	213	[illegible]
6,000	17	266	15.[illegible]	27	223	3.4	[illegible]	222	6.1	30	241	[illegible]	27	2[illegible]	[illegible]
8,000	12	275	17.7	25	221	5.1	21	256	[illegible]	30	232	7.1	21	253	14.[illegible]
10,000				24	255	7.[illegible]	20	316	[illegible]	[illegible]	221	7.1	17	260	[illegible]
12,000				2[illegible]	256	10.0	17	290	7.6	26	21[illegible]	6.2	16	258	13.[illegible]
14,000				19	248	9.[illegible]	12	313	3.4	28	215	10.1	11	260	1[illegible]
16,000				18	247	8.[illegible]	12	[illegible]	[illegible]	25	218	11.[illegible]	13	257	6.8
18,000				17	219	7.9				25	225	12.4	11	270	6.5
20,000				15	24[illegible]	[illegible]				23	225	12.6	11	265	[illegible]
22,000				11	26[illegible]	4.6				1[illegible]	221	14.3			

Altitude (meters) m s l	Brownsville, Tex. [illegible]			Buffalo, N. Y. [illegible]			Burrwood, La. [illegible]			Caribou, Me. [illegible]			Charleston, S. C. [illegible]			Columbia, Mo. [illegible]			Fairbanks, Alaska [illegible]		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
500	[illegible]	11[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,000	[illegible]	15[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99	3.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]
1,500	[illegible]	16[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	232	1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	201	[illegible]
2,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28	244	1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	193	[illegible]
2,500	[illegible]	21[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	251	5.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.2
3,000	[illegible]	241	[illegible]	[illegible]	311	[illegible]	26	26[illegible]	5.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23	261	8.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	215	5.6
5,000	[illegible]	26[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22	289	11.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.[illegible]
6,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22	286	14.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	209	[illegible]
8,000	[illegible]	2[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20	287	22.[illegible]	12	251	[illegible]	1[illegible]	252	20.0	[illegible]	[illegible]	[illegible]	[illegible]	227	7.1
10,000	21	261	[illegible]	[illegible]	29[illegible]	19.8	16	285	28.8	2[illegible]	[illegible]	18.[illegible]	11	276	21.6	20	261	21.5	[illegible]	233	[illegible]
12,000	13	271	[illegible]	[illegible]	30[illegible]	19.3				[illegible]	[illegible]	18.0	[illegible]	294	[illegible]	30	262	21.6	25	[illegible]	[illegible]
14,000				[illegible]	[illegible]	[illegible]				[illegible]	286	15.[illegible]				2[illegible]	269	20.8	25	229	[illegible]
16,000				[illegible]	[illegible]	[illegible]				1[illegible]	234	9.1				26	269	[illegible]	24	232	[illegible]
18,000										[illegible]	[illegible]	6.6				2[illegible]	[illegible]	[illegible]	22	238	7.1
20,000										[illegible]	[illegible]	4.[illegible]				2[illegible]	[illegible]	2.9	27	256	4.4
22,000																14	1[illegible]	[illegible]	[illegible]	217	4.8

Altitude (meters) m s l	Ft Huachuca, Ariz (1,428 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	29	261	3.0	30	229	1.9	30	228	0.6	30	211	1.3	30	126	1.5	30	17[illegible]	2.0
500	-	----				-	30	234	3.1	27	255	4.9	30	148	2.7	30	199	4.6
1,000	-	---	-	--	--	---	30	25[illegible]	6.[illegible]	28	278	5.7	30	192	5.0	30	216	6.3
1,500	29	255	4.1	29	234	1.1	29	261	5.7	28	292	6.5	30	211	4.4	28	219	6.4
2,000	29	259	6.8	29	232	4.4	29	277	5.8	26	301	6.8	30	230	4.7	27	233	6.[illegible]
2,500	29	250	7.4	29	229	6.1	29	288	6.5	26	304	7.6	30	241	5.2	26	248	7.[illegible]
3,000	29	239	8.0	30	242	7.2	29	287	7.3	26	301	8.6	30	258	5.3	26	256	8.[illegible]
4,000	29	256	10.3	29	251	7.2	28	292	6.9	26	300	11.6	30	254	7.1	25	254	11.[illegible]
5,000	29	257	16.8	29	267	8.2	28	295	1[illegible].0	24	298	12.5	29	256	8.3	24	261	12.7
6,000	29	259	20.3	27	264	9.9	27	294	12.4	23	296	11.9	28	261	9.3	22	266	14.0
8,000	26	262	29.7	17	275	11.3	23	281	14.1	21	294	13.0	27	260	11.9	16	276	15.5
10,000	22	265	35.2	11	304	11.9	22	277	19.9	20	301	12.4	2[illegible]	261	16.2	11	293	2[illegible].3
12,000	22	260	46.0				18	282	22.1	15	291	17.4	23	270	14.7			
14,000	10	266	39.5				13	288	18.8	15	299	18.4	20	273	12.3			
16,000										13	300	12.9	15	277	8.5			
18,000										13	288	6.8	12	299	4.9			
20,000										10	112	2.6						

Altitude (meters) m s l	Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. [illegible]			Nantucket, Mass. (14 m.)			Nashville, Tenn. [illegible]			Nome, Alaska (7 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	20	335	2.3	30	126	1.8	30	1[illegible]3	3.3	23	360	0.9	30	2[illegible]	0.6	30	37	1.7
500	29	310	2.7	30	135	2.6				2[illegible]	314	3.[illegible]	30	216	2.9	30	106	2.0
1,000	29	284	2.4	30	124	2.1	24	193	[illegible]	2[illegible]	307	4.3	29	214	5.4	30	95	1.1
1,500	29	21[illegible]	3.3	30	86	.3	29	231	3.6	26	291	5.8	27	229	1.9	30	31	.8
2,000	29	229	1.[illegible]	30	306	[illegible]	2[illegible]	243	6.0	27	291	6.9	27	232	5.8	30	348	.7
2,500	29	2[illegible]	[illegible].4	30	304	[illegible]	[illegible]	243	7.4	2[illegible]	292	7.6	27	267	7.1	29	316	1.6
3,000	29	23[illegible]	7.7	30	302	[illegible]	[illegible]	248	[illegible]	27	296	8.[illegible]	26	265	7.5	29	313	1.8
4,000	29	254	9.8	30	299	[illegible]	2[illegible]	257	1[illegible].6	26	292	9.3	25	277	8.6	28	302	3.2
5,000	29	267	14.9	30	303	6.[illegible]	29	262	16.[illegible]	23	286	1[illegible].4	21	289	10.5	29	313	4.5
6,000	27	274	17.1	30	302	12.9	25	261	18.[illegible]	21	281	1[illegible].6	20	293	12.7	28	284	4.3
8,000	19	270	17.1	29	297	19.3	21	261	24.1	17	274	12.2	20	289	16.2	26	292	5.5
10,000				26	297	21.5	13	263	25.7	13	268	14.6	16	282	21.9	21	263	9.4
12,000				23	298	26.5							14	289	29.8	16	256	9.1
14,000				15	297	21.6										16	247	8.9
16,000				13	304	17.1										17	246	10.0
18,000																16	240	9.4
20,000																13	215	7.5

Altitude (meters) m s l	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul, Is., Alaska (10 m.)			San Antonio, Tex (242 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	270	4.2	30	157	3.3	30	344	2.2	30	120	1.8	29	323	1.7	30	134	3.3
500	30	282	5.1	30	158	4.3	—	--		29	143	2.4	27	268	3.1	30	124	5.7
1,000	30	275	4.6	28	187	5.7	29	348	2.2	28	201	2.9	26	256	3.9	30	154	5.1
1,500	30	268	4.1	26	224	5.3	29	322	1.9	27	247	3.7	26	263	5.0	30	18[illegible]	5.2
2,000	30	270	4.3	26	232	6.5	29	265	2.5	26	258	4.6	25	274	6.1	30	215	5.8
2,500	30	275	5.7	28	243	9.1	29	259	4.2	26	262	6.2	25	281	6.3	30	247	7.2
3,000	30	283	7.0	28	250	10.3	29	256	5.7	25	270	5.[illegible]	25	289	6.1	30	254	9.5
4,000	30	281	10.3	29	255	13.6	29	253	6.4	26	269	5.2	21	285	7.6	30	261	13.6
5,000	30	279	13.9	28	260	13.2	29	260	6.9	27	259	7.8	17	263	5.4	29	262	14.9
6,000	30	277	16.2	27	264	14.4	28	259	7.8	26	266	8.4	17	253	6.4	29	264	18.6
8,000	30	273	19.7	25	270	18.4	28	253	6.6	27	261	8.3	15	275	5.4	26	264	26.1
10,000	29	279	23.2	20	270	22.8	27	250	11.9	24	255	12.6	15	255	11.8	17	268	28.7
12,000	28	276	23.8	18	267	27.0	26	251	15.2	24	269	13.1	15	254	11.4	10	266	34.3
14,000	28	269	19.7	16	273	23.4	25	248	15.1	25	26[illegible]	13.2	15	239	10.7			
16,000	25	268	13.5	15	271	16.7	22	244	10.1	26	258	9.3	14	245	9.5			
18,000	22	260	9.8	13	268	9.7	21	245	4.9	25	270	6.0	14	240	7.1			
20,000	19	266	5.0	11	294	1.2	13	229	2.1	19	277	3.4	13	235	6.4			
22,000	16	291	3.0	10	308	.3				15	299	1.9	12	249	1.0			
24,000																		
26,000																		

Altitude (meters) m s l	San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich (221 m.)			Spokane, Wash (726 m.)			Tatoosh Is., Wash (31 m.)			Washington, D. C. (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	93	3.0	30	285	3.3	30	43	0.7	30	202	1.8	30	221	3.6	30	245	0.1
500	30	94	5.9	30	312	3.9	30	73	1.5				30	233	4.8	30	269	2.7
1,000	30	94	5.4	30	333	3.7	30	254	1.3	30	218	4.9	30	232	4.5	30	281	5.2
1,500	30	90	4.0	30	342	3.0	30	274	3.[illegible]	30	236	6.4	30	240	4.7	30	288	6.6
2,000	30	89	2.6	30	321	3.4	30	280	4.3	30	240	6.9	30	234	5.4	30	291	7.4
2,500	30	89	1.4	30	296	5.3	30	295	5.3	30	239	7.3	30	237	5.5	30	286	8.2
3,000	30	357	.2	30	289	8.4	30	296	5.9	30	242	7.4	30	238	6.0	30	286	10.2
4,000	29	265	3.0	29	277	11.4	29	298	7.6	30	238	8.7	29	227	8.4	30	291	11.3
5,000	29	264	5.9	26	265	12.5	29	299	9.6	30	247	11.5	28	237	10.1	30	293	12.5
6,000	29	272	7.6	21	264	13.3	29	297	10.5	30	245	13.7	27	250	11.7	30	287	13.5
8,000	29	277	11.9	19	261	15.0	29	295	14.7	26	247	14.3	27	272	19.3	29	267	18.3
10,000	30	267	24.1	16	274	16.6	27	288	17.0	23	254	15.4	23	273	20.0	29	287	24.0
12,000	27	265	27.1	14	259	19.2	23	281	17.3	23	263	11.4	21	275	15.9	28	285	25.0
14,000	26	263	24.0	13	268	18.1	20	293	14.6	24	253	8.7	21	275	11.4	28	288	21.8
16,000	24	270	14.1	13	264	12.9	16	289	9.9	24	242	5.8	20	271	7.4	25	2[illegible]	14.4
18,000	17	267	5.5	13	270	7.7	11	286	7.2	23	238	4.7	19	232	6.9	25	290	9.6
20,000	14	188	3.2	12	253	6.1				17	244	2.8	18	222	1.3	22	305	5.1
22,000	12	10	1.1	11	100	3.9				12	296	1.0	13	183	.4	21	284	3.3
24,000																19	267	5.9
26,000																13	266	8.9

Altitude (meters) m s l	Yakutat, Alaska (12 m.)		
	No. of observations	Direction	Speed
Surface	30	111	1.5
500	29	125	3.6
1,000	29	137	4.9
1,500	29	150	5.7
2,000	30	152	5.4
2,500	30	160	5.1
3,000	29	165	4.6
4,000	29	181	5.0
5,000	29	191	5.4
6,000	29	192	8.1
8,000	27	205	7.2
10,000	25	269	7.4
12,000	24	281	8.0
14,000	22	266	7.5
16,000	22	269	5.5
18,000	21	281	6.0
20,000	16	282	3.5

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January [illegible] issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for December 1954

Altitude (meters) m s.l.	Denver, Colo (1,661 m.) No of observations	Denver Direction	Denver Speed	Ft. Worth, Tex (178 m.) No of observations	Ft. Worth Direction	Ft. Worth Speed	Ogden, Utah (1,45? m.) No of observations	Ogden Direction	Ogden Speed	Rantoul, Ill. (227 m.) No of observations	Rantoul Direction	Rantoul Speed	Rome, N. Y. (146 m.) No. of observations	Rome Direction	Rome Speed
Surface	30	216	1.4	31	260	0.3	31	55	1.8	30	261	0.9	29	312	1.5
500			---	31	250	1.7	-	--	----	28	257	3.3	29	298	2.9
1,000	--	-	--	31	269	4.9	--	---	--	28	273	5.0	29	287	5.5
1,500	--	-	----	31	280	7.1	29	56	1.8	28	291	6.2	29	285	6.7
2,000	28	269	2.0	31	269	8.7	29	215	1.5	28	291	8.0	28	284	7.6
2,500	28	291	3.3	31	290	10.2	29	255	2.5	28	292	8.9	28	281	7.9
3,000	28	292	5.0	31	290	10.4	29	285	3.9	28	290	9.7	28	281	8.7
4,000	28	312	8.9	31	286	13.3	29	286	6.5	30	294	13.4	27	276	10.0
5,000	29	310	11.8	31	283	15.8	29	286	10.1	30	297	17.0	27	271	10.7
6,000	30	308	13.2	31	280	20.3	30	285	14.2	31	293	19.6	27	270	12.8
8,000	30	300	17.8	31	272	25.4	31	283	19.9	31	298	24.6	26	270	20.5
10,000	29	296	21.1	31	271	30.1	29	284	26.7	31	288	30.7	26	264	21.7
12,000	27	288	22.3	30	273	33.7	23	292	20.3	29	290	28.3	25	263	19.8
14,000	26	285	19.1	28	268	26.7	19	302	14.3	23	288	24.9	21	275	18.5
16,000	24	287	14.9	20	267	17.7	12	302	9.7	25	287	16.1	15	269	12.6
18,000	22	300	8.7	14	292	7.0				10	305	8.9	12	277	10.5
20,000	16	346	3.4	12	330	1.1									

* January 1955 data for the above Air Force stations will be included in the May 1955 issue of this publication

These free-air resultant winds are based on rawin observations made near 0300 G C T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

Note Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun — APRIL 1[illegible]

ALBUQUERQUE, N. MEX.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	0.0°	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	5.0	4.0	3.0	2.0	*1.5	2.0	3.0	4.0	5.0
Apr. 1	0.74	0.84	0.97	1.12	1.27	1.16	1.01	0.86	[illegible]
2	---	----	-	---	---	Dust	Dust		
3	.72	.83	d .94	d1.05		d .38	d .37	d .25	d .2[illegible]
4	d .77	d .86	d .95	d1.12	d1.24	d1.04	.92	.79	.71
6	--	d .60	d .78	d .98	d1.35	---	--	--	--
8	---	----	.77	.98	1.27		-		
9	.59	.72	.88	1.08	1.38				
10	.75	.88	1.03	1.22	1.47	1.17	1.02	.90	.8[illegible]
11	----	----	.96	----	----	--	-	Dust	Dust
12	----	----	----	----	--	d .51	d .38	Dust	Dust
13	%	%	%	%	%	1.14	.98	.89	.78
14	.73	.84		----	--				
19	Dust	Dust	d .31	Dust	----	d .89	d .63	d .5[illegible]	d .42
20	.48	.61	.74	.98	1.30	.98	.79	.67	.59
24	.70	.82	.94	1.11	1.30	--	--		
25	.68	.79	.93	1.12	1.35	1.13	.94	.80	.69
26	.74	.85	.98	1.17	1.36	d .80	d .65	d .31	--
27	d .54	d .62	d .71	d1.03	d1.16	d .94	d .73	d .61	d .54
28	.81	.89	1.03	1.20	1.38	1.22		---	
Averages	.69	.78	.86	1.09	1.32	.95	.77	.66	.62

MADISON, WIS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	0.0°	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
Apr. 1	0.43	0.61	0.66	0.88	1.21	----	----	----	--
2	.85	.95	1.08	1.27	1.49	1.22	1.05	0.90	0.78
3	.76	.85	1.03	1.27	1.41	1.31	1.15	1.02	.90
7	.95	1.02	1.16	1.32	1.54	1.30	1.10	.99	.88
8	.83	.90	.92	1.24	1.52	1.26	1.08	.95	.82
9	.67	.80	.98	1.16	1.38	1.06	.82	.64	.53
10	.55	.69	.84	1.06	1.35	.93	----	----	---
17	.47	.60	.83	1.09	1.43	----	----	----	---
22	----	----	----	----	1.43	1.18	.92	.76	-
25	----	----	----	----	1.46	1.16	.96	.80	.68
26	.49	.63	.76	.94	1.17	1.00	.74	.61	.52
27	.36	.47	.61	.82	1.14	.70	.52	.37	.27
29	.86	.97	1.09	1.26	1.45	1.20	1.02	.86	.74
30	.54	.68	.82	.98	1.24	.97	.78	.65	.50
Averages	.65	.76	.90	1.11	1.37	1.11	.92	.78	.66

TABLE MOUNTAIN, CALIF.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	0.0°	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	5.0	4.0	3.0	2.0	N	2.0	3.0	4.0	5.0
Apr. 15	----	----	---	1.45	--	----	---		

LINCOLN, NEBR.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	0.0°	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.77	3.81	2.86	1.91	*0.95	1.91	2.86	3.81	4.77
Apr. 2		#0.49	#0.68	#0.92	#1.24	#[illegible]	#[illegible]	#[illegible]	#[illegible]
4		# .45	# .70	# .96	#[illegible]				
5		.79	.99	1.14	1.35				
6						1.07	.8[illegible]	.73	.62
[illegible]			1.05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.77
[illegible]			.86	[illegible]	1.26	[illegible]			
[illegible]			# .75	# [illegible]	# [illegible]				
14			.97	[illegible]	1.39				
15					1.27	# [illegible]	# [illegible]	# [illegible]	# .51
16			.90	[illegible]	1.34	1.12	.92	[illegible]	.64
20				1.01	1.32	# [illegible]	# [illegible]	# [illegible]	# .45
25					# .91	# [illegible]	# .37	# .27	# .20
26					#1.08	# [illegible]	# [illegible]	# [illegible]	# [illegible]
27						# .56			
28				[illegible]	1.38	1.19	.99	.77	.6[illegible]
Averages		.58	.87	1.07	1.25	.92	.75	.61	.51

BLUE HILL, MASS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	0.0°	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
Apr. 2	0.42	0.52	0.70						
5	.85	.95	1.07	[illegible]		[illegible]			
6	---	-				1.27	1.[illegible]	0.99	0.86
11	----	-				1.22			
16	----					[illegible]	1.08	[illegible]	[illegible]
30	----	---	---	[illegible]		[illegible]	.91	.78	.66
Averages	(.64)	(.74)	(.88)	(1.14)		1.21	1.03	.91	.78

WASHINGTON, D. C. (WBCO)

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	0.0°	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.95	3.96	2.97	1.98	N	1.98	2.97	3.96	4.95
Apr. 1	---	---	---	**0.93	**1.23				
4	---		-	1.22	1.34	[illegible]		-	
5	--	---			1.32				
8	---	---	- -	1.15	1.39		---	-	
28	--	---		1.15			-		
Averages	----	----		1.11	1.32	[illegible]			

d - Dust within 45 degrees of sun.
Values omitted when clouds within 45 degrees of sun.
Dust - Values omitted when values below 15.0 ordinate on recorder
% - Inoperative.
* Extrapolated
# - Values reduced due to dust in the air
N - Solar noon
** Thin cirrus veil.

Langley is the unit used to denote one gram calorie per square centimeter An explanation of Tables 30 and 31 and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the Monthly Weather Review, vol. 72, No. 1, January 1944, p 43. A list of pyrheliometric stations is given on page 45 of that issue. An explanation of **the formula used in computing the air mass values for each station listed in** Table 30 appears in volume 75, No. 3, March 1947, p 47

SOLAR RADIATION DATA

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
Langleys	93	64	99	85	44	100	89	82	96	119	87	128	101	101	99	104	85	89	99	37	83	62	74	76
Date	23	24	25	26	27	28	29		30	1	2	3	4	5	6									
Langleys	107	45	17	17	24	31	33	39	106	113	113	111	134	114	97	113								

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
Langleys	275	78	102	347	38	225	235	186	329	190	237	245	104	101	107	188	106	81	300	36	105	60	73	109
Date	23	24	25	26	27	28	29		30	1	2	3	4	5	6									
Langleys	172	41	16	15	25	32	34	48	369	351	369	316	341	212	104	295								

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
Langleys	389	108	300	444	54	221	429	278	419	266	388	278	134	294	204	283	315	177	397	64	296	80	98	204
Date	23	24	25	26	27	28	29		30	1	2	3	4	5	6									
Langleys	268	58	44	51	39	51	53	81	329	312	327	320	262	182	215	278								

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
Langleys	327	69	257	370	46	147	419	234	372	235	379	173	117	304	198	254	406	179	373	41	315	68	98	211
Date	23	24	25	26	27	28	29		30	1	2	3	4	5	6									
Langleys	231	48	19	19	31	37	42	57	408	408	360	406	231	155	239	315								

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
Langleys	139	137	203	93	88	210	104	139	95	250	107	278	218	181	21[illegible]	192	123	158	113	60	151	130	156	127
Date	23	24	25	26	27	28	29		30	1	2	3	4	5	6									
Langleys	---	90	36	41	55	73	78	(54)	111	114	145	145	249	263	228	179								

Note: Langley is the unit used to denote one gram calorie per square centimeter.

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month.

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Langleys	237	78	242	245	116	*0	*267	*280	284	259	*5	203	*132	*0	*355	343	*333	109	310	302	305	*347	239
Date	24	25	26	27	28	29	30	Avg.															
Langleys	*301	124	301	96	243	312	337	226															

* Estimated values owing to occurrence of rain during period. While rain is falling radiation is assumed to be zero.

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Raleigh State College. The instrument with which they were measured has not been checked by the Weather Bureau.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys

1955	Albuquerque, N.Mex.	Aklavik MacKenzie	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	East Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Grand Junction, Colo.	Great Falls, Mont.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nev.	Lemont, Ill.
Apr. 2-----	613	375	359	552	485	176	368	488	549	490	411	487	583	592	603	---	581	580	514	612	565	520	401	652	354	225	624	616	80	125	182	268	506	501	740	575	---	552	654	550
Apr. 3-----	697	300	429	677	566	596	359	495	116	140	555	185	453	588	399	494	419	564	520	506	610	219	467	672	458	394	556	612	574	551	215	614	541	578	732	640	640	285	677	622
Apr. 4-----	725	315	71	(634)	571	574	340	368	68	373	568	---	500	658	625	597	670	289	484	697	488	277	465	707	529	336	445	507	594	488	313	620	743	364	495	549	331	381	548	215
Apr. 5-----	632	263	41	428	551	130	365	497	132	560	585	570	583	667	605	275	534	504	603	590	468	591	495	703	578	286	396	(602)	220	617	604	120	688	545	719	588	---	621	628	551
Apr. 6-----	667	320	192	548	---	296	359	489	626	89	558	83	559	677	294	383	625	551	591	646	188	117	482	696	644	428	103	620	508	647	645	412	130	---	724	367	477	587	660	286
Apr. 7-----	327	421	293	405	419	622	299	524	627	286	590	---	106	580	281	206	231	676	600	670	481	320	203	685	576	411	(596)	616	502	422	637	598	197	385	727	172	439	687	653	605
Apr. 8-----	563	443	143	438	209	657	382	525	620	567	560	---	50	633	431	716	459	661	628	636	592	578	311	707	670	399	(521)	609	523	614	528	684	747	604	733	367	277	675	658	642
Averages-----	603	348	218	(526)	467	436	353	484	391	358	547	331	405	628	463	445	503	546	563	622	484	375	403	689	544	354	(463)	(597)	429	538	446	474	507	496	696	465	433	556	640	496
Apr. 9-----	700	367	220	---	253	459	365	545	605	574	477	614	215	518	---	---	685	643	557	222	604	614	358	727	660	295	281	609	328	688	454	412	736	602	735	58	27	666	669	627
Apr. 10-----	732	296	262	202	323	105	312	455	598	376	451	404	371	675	586	232	673	454	634	553	589	187	342	739	(435)	465	222	---	310	613	111	114	738	595	765	183	75	728	609	621
Apr. 11-----	625	445	519	501	325	488	344	362	319	541	416	580	507	623	596	97	240	185	630	472	210	560	422	614	(618)	463	618	545	156	303	591	561	313	157	754	524	543	277	699	69
Apr. 12-----	592	476	294	415	142	415	377	440	416	399	337	---	494	618	654	385	560	379	579	362	369	393	436	733	627	465	551	578	496	702	573	497	586	479	727	103	116	707	672	463
Apr. 13-----	750	484	485	414	284	140	441	308	471	222	377	232	561	648	626	391	463	402	389	537	215	317	334	726	(612)	---	414	622	363	707	616	148	---	182	707	309	633	593	601	173
Apr. 14-----	739	416	447	379	430	168	351	369	480	408	392	399	614	602	308	131	312	613	649	712	400	369	334	762	608	350	663	656	162	517	146	550	498	329	733	193	673	591	350	208
Apr. 15-----	734	432	223	708	152	659	142	422	262	285	515	274	647	615	83	639	102	605	644	730	204	329	507	697	(577)	286	655	665	661	649	645	695	546	217	779	100	666	592	691	183
Averages-----	696	417	350	437	273	391	376	415	450	401	424	417	487	614	475	313	434	469	583	512	370	438	390	714	(591)	387	486	629	397	597	448	423	586	366	743	338	391	565	613	335
Apr. 16-----	717	509	623	707	504	672	395	281	633	472	124	469	438	657	604	---	562	563	559	709	566	319	522	715	(672)	---	(551)	575	630	728	395	699	725	493	751	162	644	689	667	512
Apr. 17-----	305	306	604	698	364	641	336	384	356	254	274	226	591	457	564	479	721	---	270	589	647	350	435	462	634	(152)	452	287	599	356	265	661	642	647	763	189	292	623	686	628
Apr. 18-----	612	266	627	655	542	627	445	369	174	619	183	580	540	649	553	583	523	---	460	624	294	639	189	352	367	410	514	359	592	598	371	657	706	367	799	463	522	540	707	269
Apr. 19-----	723	316	568	701	143	601	405	---	149	63	479	61	---	606	264	596	417	---	264	420	356	80	185	792	710	468	247	608	545	737	249	667	611	215	791	134	468	600	719	41
Apr. 20-----	771	353	583	691	314	525	347	---	165	439	318	441	565	644	643	610	395	---	200	695	225	387	296	777	396	408	497	385	598	740	601	578	659	251	748	583	495	622	620	454
Apr. 21-----	707	434	152	606	315	330	287	(404)	594	131	354	130	552	521	629	581	344	---	237	698	645	145	547	632	275	283	642	192	428	739	437	442	548	548	294	408	595	595	--	645
Apr. 22-----	266	290	364	518	335	647	272	512	461	156	357	154	591	629	650	---	695	---	552	414	644	137	286	273	310	272	579	562	529	145	427	686	287	-	782	521	---	648	477	621
Averages-----	586	353	503	654	360	578	355	(390)	362	305	298	295	546	595	558	570	522	---	363	593	482	294	351	572	(481)	(332)	(498)	424	560	578	378	627	597	420	704	380	503	617	646	453
Apr. 23-----	531	331	512	693	536	551	---	407	74	397	320	355	597	---	220	524	476	---	675	343	607	357	445	(716)	(737)	500	454	679	558	757	578	578	686	75	778	609	177	706	716	166
Apr. 24-----	732	430	372	586	447	483	---	481	614	92	374	---	575	615	409	611	329	---	536	734	73	126	594	740	612	330	658	670	391	700	587	503	596	231	794	228	574	506	719	177
Apr. 25-----	783	463	677	709	456	687	426	568	106	36	271	24	339	572	517	677	109	---	174	648	69	55	604	627	(539)	548	542	255	596	721	626	718	705	55	771	91	631	502	696	404
Apr. 26-----	777	440	684	734	514	621	375	625	---	41	222	31	300	627	576	437	126	---	594	689	440	86	321	788	--	562	477	649	668	603	270	680	434	---	779	61	568	661	701	665
Apr. 27-----	771	512	599	712	184	630	393	538	290	57	595	78	162	630	98	526	707	---	679	701	702	170	112	767	---	563	140	718	624	753	685	677	142	665	814	412	539	721	758	680
Apr. 28-----	784	614	706	404	230	609	403	346	643	73	365	54	383	645	559	638	779	---	420	723	684	---	260	725	--	572	509	617	560	781	707	645	418	593	806	695	653	786	736	450
Apr. 29-----	632	625	658	692	289	679	397	368	595	80	648	76	419	640	728	615	581	---	401	654	590	---	600	615	717	550	569	543	626	296	422	704	707	554	818	662	629	745	658	231
Averages-----	716	488	601	647	380	608	399	476	388	111	399	103	396	622	444	575	444	---	497	642	452	159	419	(711)	(651)	518	478	590	575	659	539	643	570	363	794	397	539	661	712	468
Apr. 30-----	410	(415)	341	749	540	680	491	(559)	522	661	570	682	598	603	738	585	775	---	349	592	711	---	648	479	(667)	447	555	166	575	225	537	724	286	692	624	548	631	672	731	683
May 1-----	367	(489)	215	(711)	481	692	514	583	632	627	292	641	653	577	737	633	762	---	452	559	626	663	368	461	515	431	612	251	541	692	355	715	792	671	819	717	644	565	643	666
May 2-----	411	(524)	454	653	186	719	441	600	629	633	192	620	665	631	256	702	566	---	416	574	204	655	534	509	451	(431)	605	533	654	179	81	726	636	664	761	413	633	368	601	473
May 3-----	793	454	530	682	495	672	563	626	247	624	494	629	633	615	507	678	641	---	692	763	609	650	515	802	635	550	600	700	676	659	237	722	655	598	821	312	671	742	761	596
May 1-----	731	487	220	707	704	661	560	545	609	485	636	509	555	511	438	689	705	---	559	780	577	589	678	558	636	528	620	649	566	776	672	700	647	613	764	638	608	775	621	569
May 5-----	(576)	(594)	295	655	500	581	680	628	642	324	683	248	610	472	168	600	773	---	665	668	704	358	300	642	770	533	593	664	655	666	590	600	739	703	814	680	663	591	762	742
May 6-----	772	(556)	145	691	702	680	478	681	572	381	713	361	621	627	79	672	838	---	672	709	708	418	519	561	777	554	463	444	560	779	719	732	737	600	814	215	569	694	754	600
Averages-----	(580)	(503)	314	(693)	515	669	532	(603)	550	534	511	527	619	577	417	651	723	---	544	664	591	555	509	573	(636)	(496)	578	487	604	568	456	699	641	649	774	503	631	630	696	619

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys -Continued

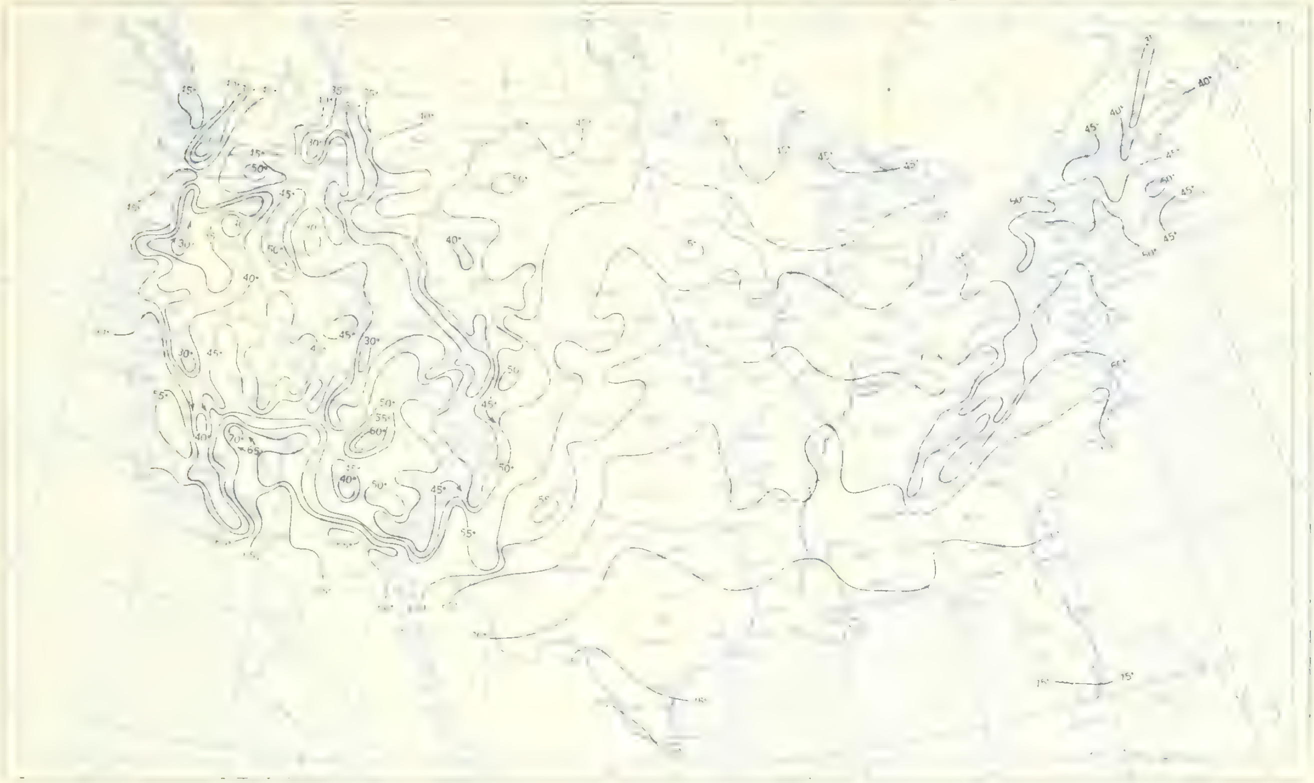
1955	Lexington, Ky.	Lincoln, Nebr.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.
Apr. 2-----	223	521	295	647	660	570	102	383	618	632	343	532	543	115	638
Apr. 3-----	711	334	561	638	630	589	161	457	458	596	541	168	75	563	553
Apr. 4-----	696	483	172	600	510	101	236	606	615	627	574	373	576	605	622
Apr. 5-----	461	548	441	635	606	493	384	600	641	597	385	605	611	248	229
Apr. 6-----	406	453	195	629	612	236	433	641	449	521	171	116	101	265	---
Apr. 7-----	521	591	624	633	615	617	444	627	629	583	607	404	327	654	677
Apr. 8-----	724	569	631	626	597	602	384	---	444	273	---	624	616	683	671
Averages-----	534	500	417	630	604	458	306	552	551	547	437	403	407	447	565
Apr. 9-----	(755)	547	592	616	625	596	485	207	151	593	---	637	484	603	402
Apr. 10-----	689	476	72	535	617	570	470	---	526	627	163	452	592	419	316
Apr. 11-----	362	356	466	672	642	132	483	371	497	455	344	589	497	412	572
Apr. 12-----	581	127	109	634	(619)	(302)	508	354	632	---	346	326	82	552	614
Apr. 13-----	233	286	499	643	625	(102)	402	432	396	---	165	207	96	78	275
Apr. 14-----	575	613	643	576	567	168	291	354	588	646	482	322	184	342	687
Apr. 15-----	675	559	583	685	653	346	519	274	606	589	607	343	457	636	652
Averages-----	(553)	424	423	623	(621)	(316)	451	332	485	582	351	411	342	434	503
Apr. 16-----	702	616	640	585	596	526	316	206	475	629	602	491	644	658	645
Apr. 17-----	677	446	536	688	667	612	122	504	614	464	600	266	153	642	615
Apr. 18-----	598	591	528	692	666	162	440	(464)	692	443	550	627	541	614	290
Apr. 19-----	622	533	319	671	656	78	426	166	657	543	509	80	267	606	---
Apr. 20-----	502	635	148	672	654	541	210	294	674	680	320	---	525	521	529
Apr. 21-----	266	559	577	168	200	633	216	412	661	560	312	134	250	210	573
Apr. 22-----	556	435	585	651	516	651	339	---	572	564	483	168	398	632	562
Averages-----	560	545	476	590	565	458	295	(341)	621	555	482	295	397	555	535
Apr. 23-----	185	85	347	653	584	310	536	415	679	632	317	402	538	349	384
Apr. 24-----	342	494	668	287	204	32	579	606	705	639	385	121	129	319	692
Apr. 25-----	70	584	682	469	363	616	570	333	473	551	84	52	47	97	632
Apr. 26-----	286	581	496	671	550	651	556	444	594	630	643	70	96	143	442
Apr. 27-----	454	474	423	700	660	631	604	347	661	690	612	121	277	699	595
Apr. 28-----	714	675	601	693	667	260	369	257	629	646	565	116	235	678	---
Apr. 29-----	764	652	718	636	488	699	512	498	496	573	624	196	268	697	638
Averages-----	402	507	562	587	502	457	529	414	605	623	461	154	227	426	564
Apr. 30-----	791	427	536	146	200	660	263	673	655	499	615	---	659	689	553
May 1-----	785	545	652	710	304	(620)	543	(643)	545	470	671	---	464	711	597
May 2-----	738	578	562	687	409	483	618	636	371	344	654	---	655	708	555
May 3-----	754	492	594	692	678	603	322	563	624	673	651	---	511	687	584
May 4-----	728	659	482	666	655	683	436	626	528	501	540	660	597	643	733
May 5-----	748	650	558	415	370	725	525	---	554	589	646	474	485	655	471
May 6-----	726	638	297	565	507	559	562	773	506	681	448	434	612	632	683
Averages-----	760	570	526	554	446	(619)	467	(652)	540	537	604	---	569	675	596

1955	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.
Apr. 2-----	459	680	474	577	414	617	552	652	(664)	510	531	440	413
Apr. 3-----	359	725	209	271	454	652	554	590	(656)	594	54	75	388
Apr. 4-----	589	713	489	252	431	503	125	530	463	565	547	495	557
Apr. 5-----	589	592	596	439	551	674	98	590	671	120	679	516	560
Apr. 6-----	289	694	139	660	564	661	568	303	668	96	112	135	119
Apr. 7-----	327	711	347	651	520	659	607	297	634	603	521	329	397
Apr. 8-----	645	715	607	631	407	644	589	153	650	577	674	558	604
Averages-----	465	690	409	497	477	630	442	445	(630)	438	445	364	434
Apr. 9-----	570	707	612	647	173	661	592	70	669	583	600	521	562
Apr. 10-----	496	720	571	652	526	643	576	475	(683)	576	589	460	588
Apr. 11-----	631	692	625	110	566	677	498	425	691	536	506	508	471
Apr. 12-----	423	751	494	213	184	672	526	542	628	287	110	240	45
Apr. 13-----	184	727	278	611	270	640	487	672	670	44	87	135	150
Apr. 14-----	74	709	317	335	471	612	570	668	678	119	327	100	224
Apr. 15-----	166	715	353	483	455	689	369	659	705	479	477	227	426
Averages-----	363	717	464	436	378	656	517	501	(675)	375	385	313	352
Apr. 16-----	160	592	410	659	470	549	629	493	(649)	143	624	458	430
Apr. 17-----	162	533	380	372	357	695	351	602	476	603	214	164	214
Apr. 18-----	568	725	621	(659)	431	614	406	531	670	123	671	535	536
Apr. 19-----	170	744	59	366	422	706	368	421	719	320	222	120	330
Apr. 20-----	597	749	651	655	230	699	341	444	645	66	515	516	249
Apr. 21-----	118	509	297	656	160	618	598	533	234	559	235	97	401
Apr. 22-----	260	556	118	546	559	467	616	552	619	206	423	294	481
Averages-----	291	630	362	(559)	376	621	473	511	(573)	288	415	312	377
Apr. 23-----	291	728	73	655	623	693	305	507	707	480	616	536	588
Apr. 24-----	369	727	243	679	482	392	235	532	223	503	128	394	315
Apr. 25-----	58	739	58	548	461	464	633	594	422	234	103	41	133
Apr. 26-----	149	742	80	623	244	483	526	529	740	637	122	59	124
Apr. 27-----	636	751	116	521	560	770	494	76	760	642	251	289	162
Apr. 28-----	681	765	174	701	535	736	390	592	762	641	207	330	273
Apr. 29-----	597	559	126	575	416	---	665	349	(590)	634	278	358	162
Averages-----	397	716	124	614	474	590	464	454	(600)	539	244	287	251
Apr. 30-----	403	739	671	645	604	---	554	371	314	628	741	500	580
May 1-----	651	652	635	696	424	---	269	656	374	269	641	528	502
May 2-----	229	591	563	675	570	341	592	617	325	(244)	707	494	685
May 3-----	413	779	641	123	371	756	429	602	(565)	560	703	470	462
May 4-----	528	715	461	638	615	658	500	337	---	601	709	483	639
May 5-----	513	767	168	703	633	378	716	570	415	240	523	430	605
May 6-----	290	728	147	707	689	657	515	645	421	738	562	316	674
Averages-----	432	710	470	598	558	558	502	543	(402)	(469)	655	460	592

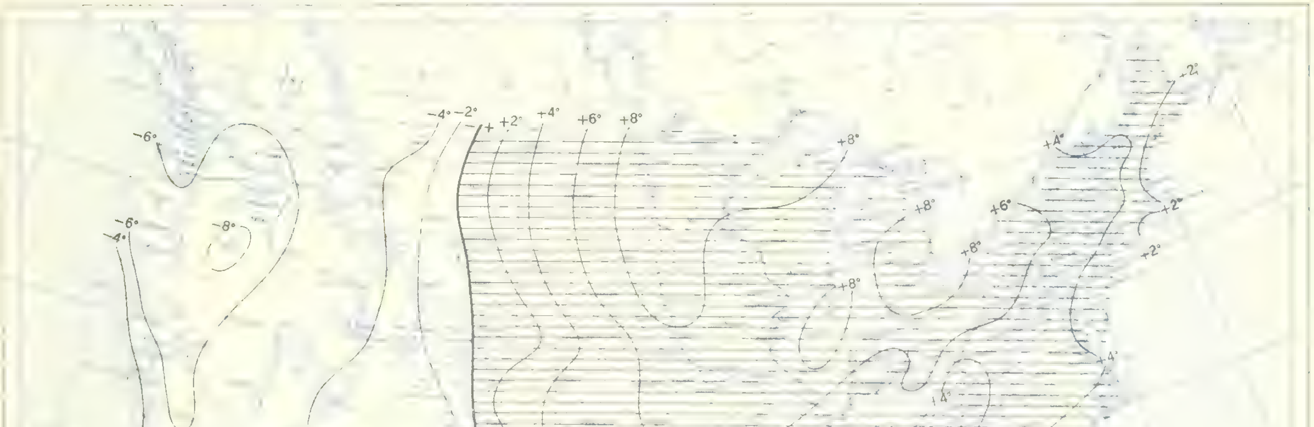
1955	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Toronto, Ontario	Upton N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
Apr. 2-----	202	449	550	414	591	---	---	492	548	---	420	504
Apr. 3-----	297	286	519	294	507	---	---	322	67	610	527	456
Apr. 4-----	453	423	370	531	571	---	---	588	520	658	610	264
Apr. 5-----	489	532	622	381	180	---	---	554	(658)	667	578	294
Apr. 6-----	490	545	630	129	322	---	---	433	140	609	144	561
Apr. 7-----	373	448	617	100	641	---	---	350	553	681	308	572
Apr. 8-----	130	135	563	539	643	---	---	371	665	662	623	580
Averages-----	348	403	553	341	494	---	---	444	(450)	648	458	462
Apr. 9-----	284	225	317	542	549	---	---	575	593	573	615	504
Apr. 10-----	307	401	571	558	134	---	---	581	597	685	622	499
Apr. 11-----	483	539	470	381	433	---	---	495	---	591	366	507
Apr. 12-----	254	252	186	34	556	---	---	76	195	634	418	236
Apr. 13-----	293	302	399	69	246	---	481	451	113	617	122	563
Apr. 14-----	421	463	432	109	677	---	210	203	384	604	130	551
Apr. 15-----	212	193	466	132	612	---	481	184	520	581	398	397
Averages-----	322	339	406	260	458	---	---	367	400	612	381	465
Apr. 16-----	342	418	437	479	635	---	706	151	---	593	557	572
Apr. 17-----	523	494	405	85	386	---	673	592	---	363	177	357
Apr. 18-----	298	358	243	546	348	---	688	575	---	---	170	143
Apr. 19-----	438	399	555	344	399	---	603	114	---	670	278	231
Apr. 20-----	279	302	285	64	550	---	657	323	---	673	261	152
Apr. 21-----	456	490	236	305	580	---	682	500	---	639	440	152
Apr. 22-----	225	326	438	444	524	---	597	387	---	668	559	319
Averages-----	366	398	371	324	489	---	658	378	---	601	349	275
Apr. 23-----	611	613	537	510	370	---	660	573	---	646	516	508
Apr. 24-----	524	577	557	65	678	---	617	185	---	(703)	290	192
Apr. 25-----	513	593	592	84	607	---	509	57	---	622	88	323
Apr. 26-----	242	442	299	47	470	---	726	142	---	382	59	374
Apr. 27-----	411	(491)	620	116	523	525	770	619	---	694	218	409
Apr. 28-----	584	591	588	658	543	613	605	700	---	690	583	197
Apr. 29-----	310	513	394	440	651	582	683	524	---	687	380	609
Averages-----	456	(546)	512	274	549	---	653	400	---	(632)	305	373
Apr. 30-----	567	634	644	337	573	590	717	664	---	627	438	588
May 1-----	367	326	409	657	486	671	677	679	---	654	378	526
May 2-----	287	426	478	619	486	---	675	317	---	703	682	566
May 3-----	---	(507)	405	433	498	713	637	600	---	697	553	365
May 4-----	---	681	730	569	691	685	644	580	---	---	595	279
May 5-----	---	466	467	593	403	696	637	635	---	697	613	717
May 6-----	---	754	773	651	643	706	666	716	497	547	687	482
Averages-----	---	(542)	558	551	540	(677)	665	599	---	654	564	503

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Chart I. A. Average Temperature (°F.) at Surface, April 1955.

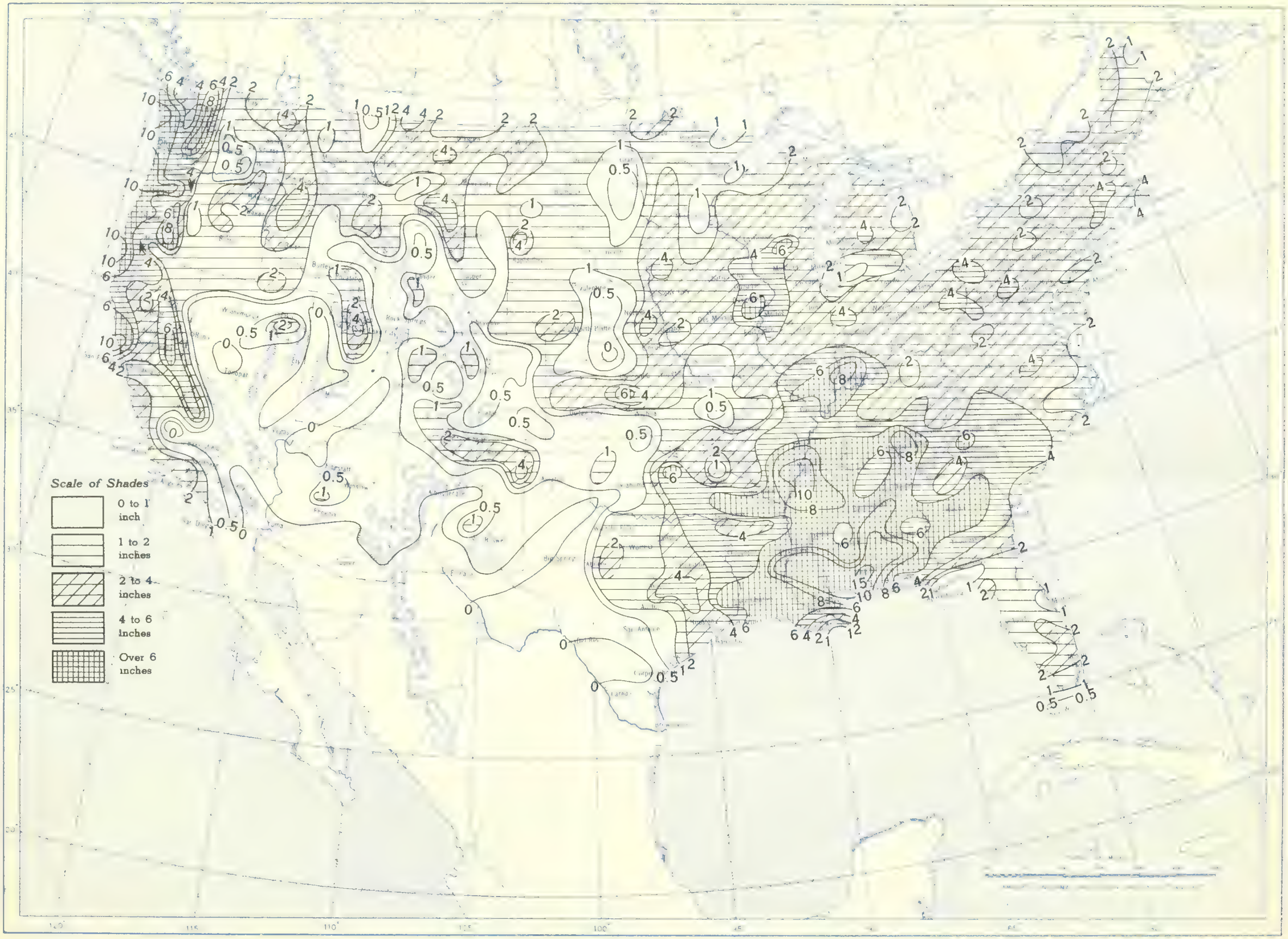


B. Departure of Average Temperature from Normal (°F.), April 1955.



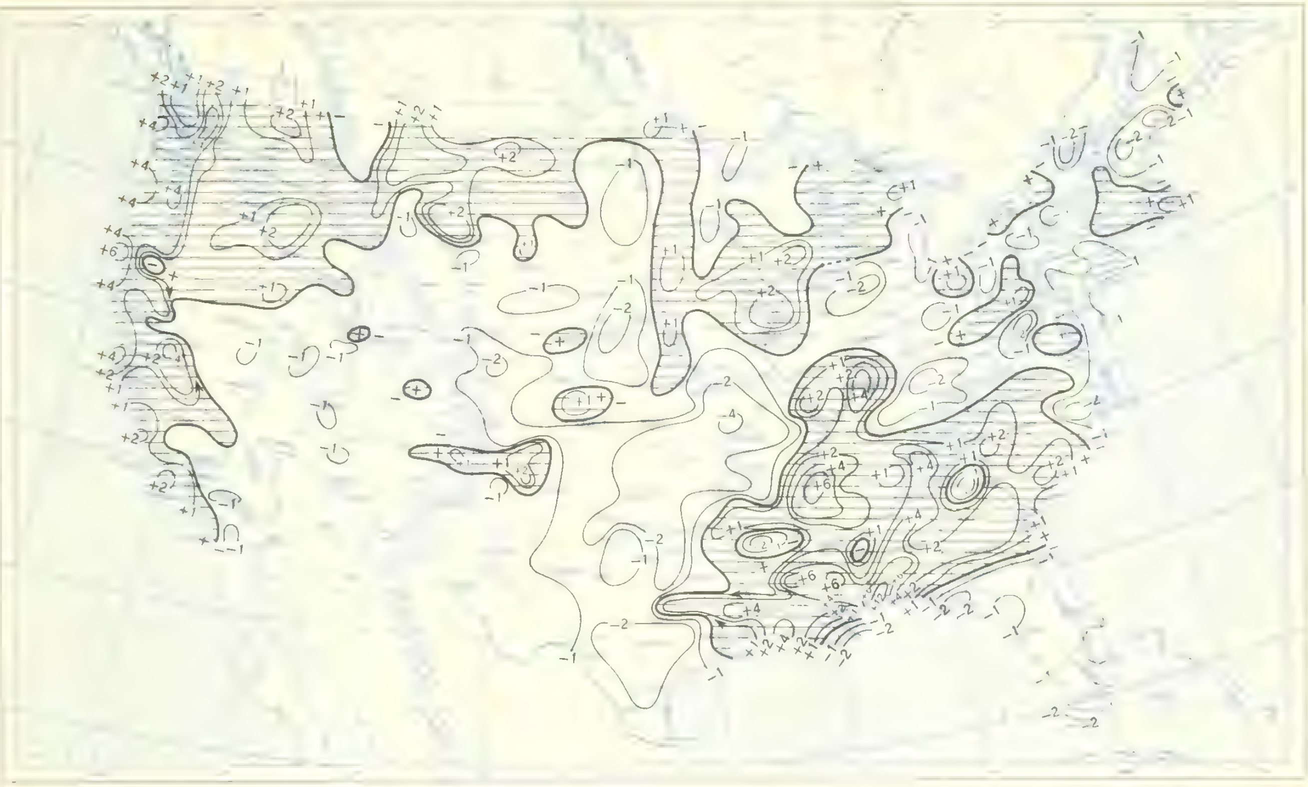
A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), April 1955.

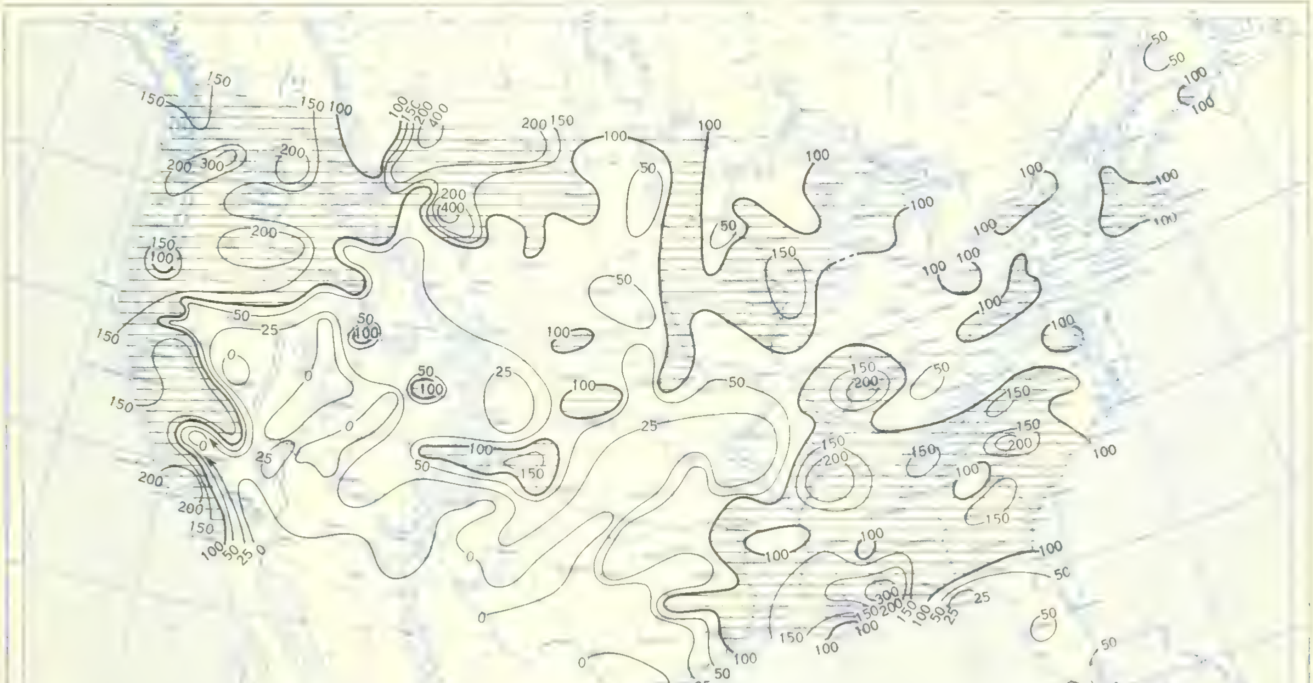


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), April 1955.

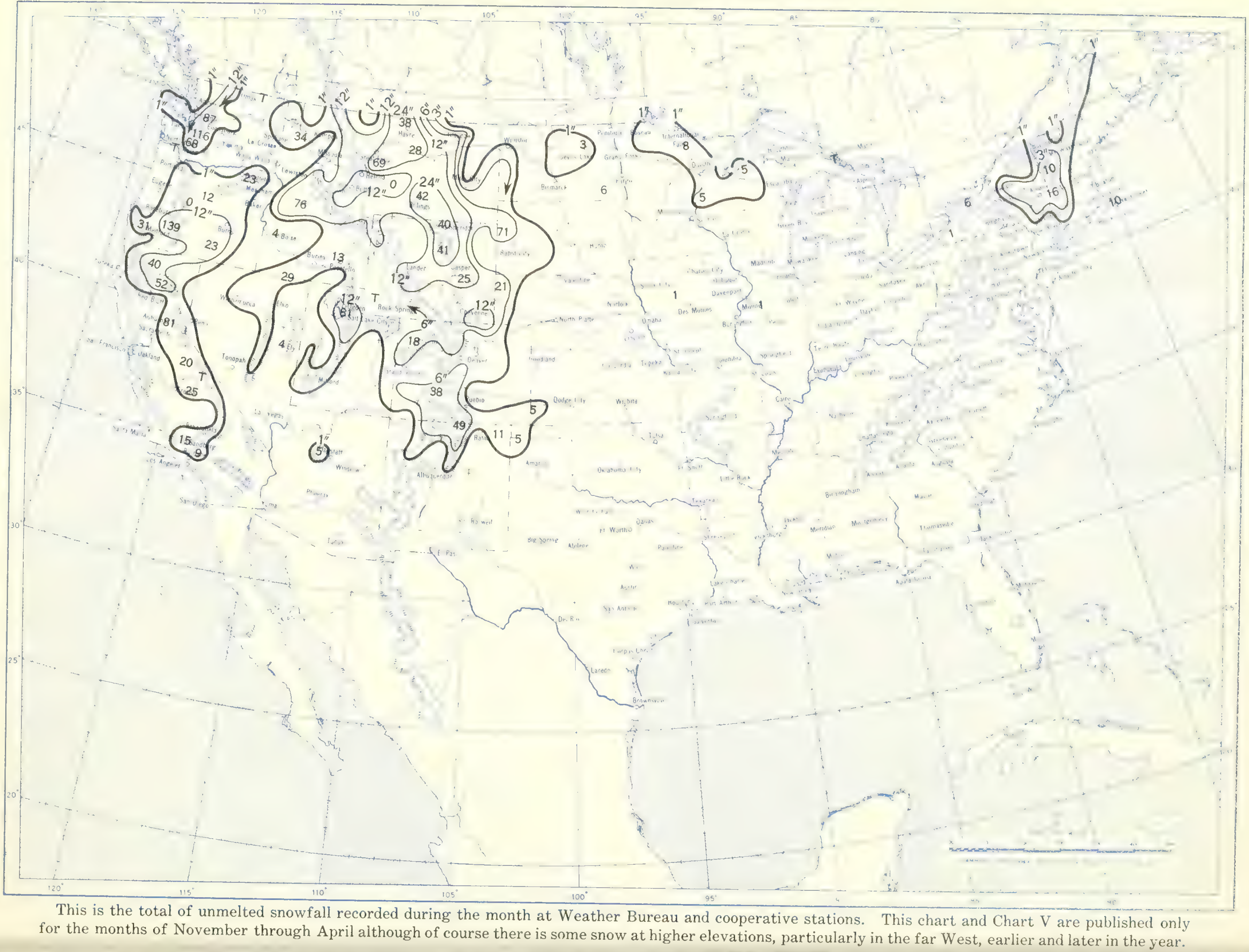


B. Percentage of Normal Precipitation, April 1955.



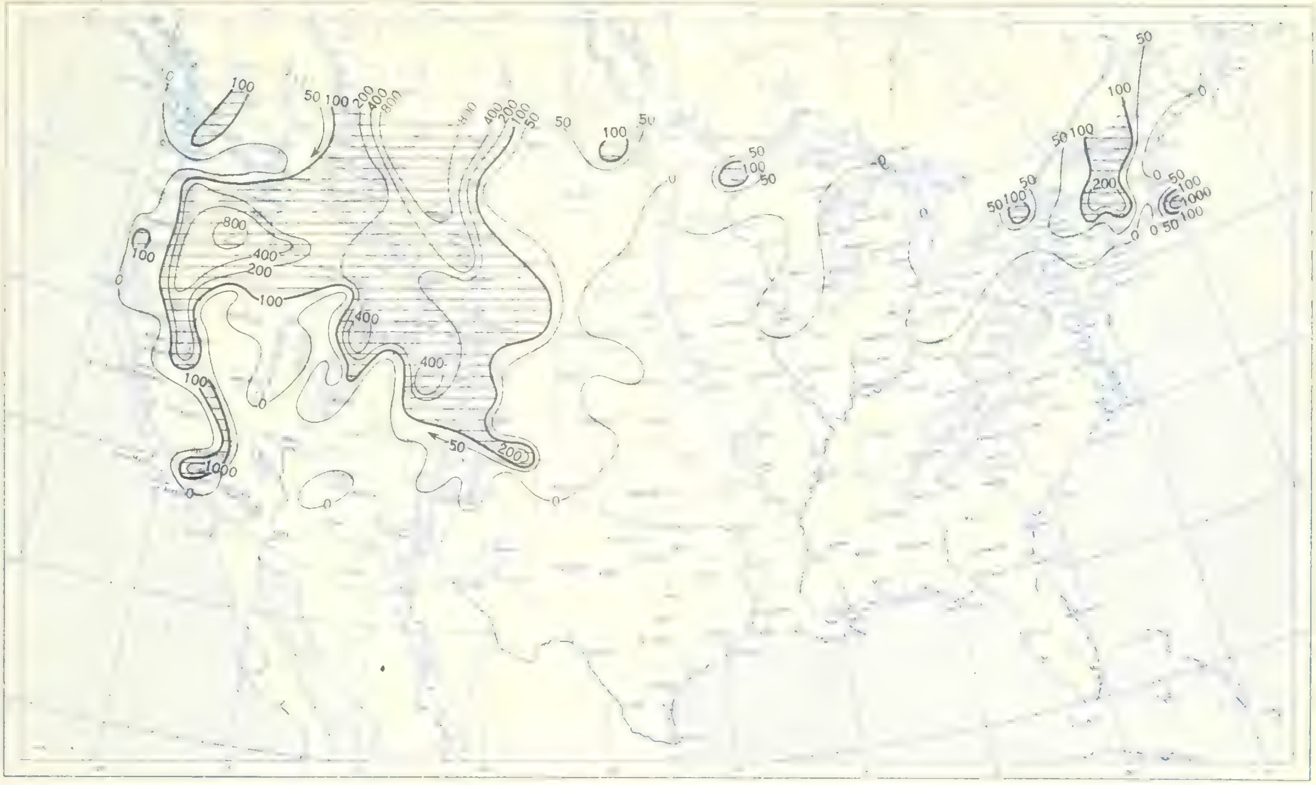
Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart IV. Total Snowfall (Inches), April 1955.

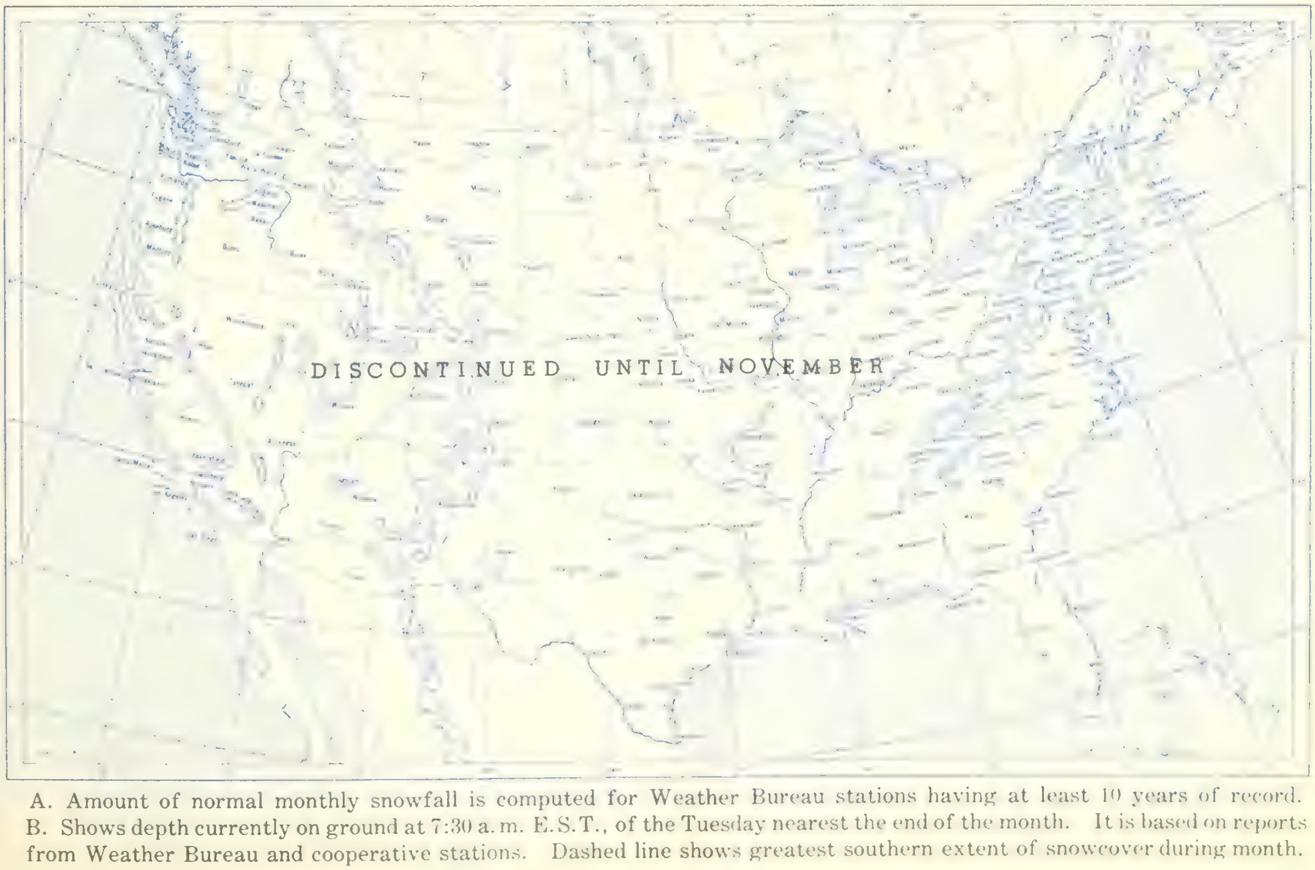


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Normal Snowfall, April 1955.

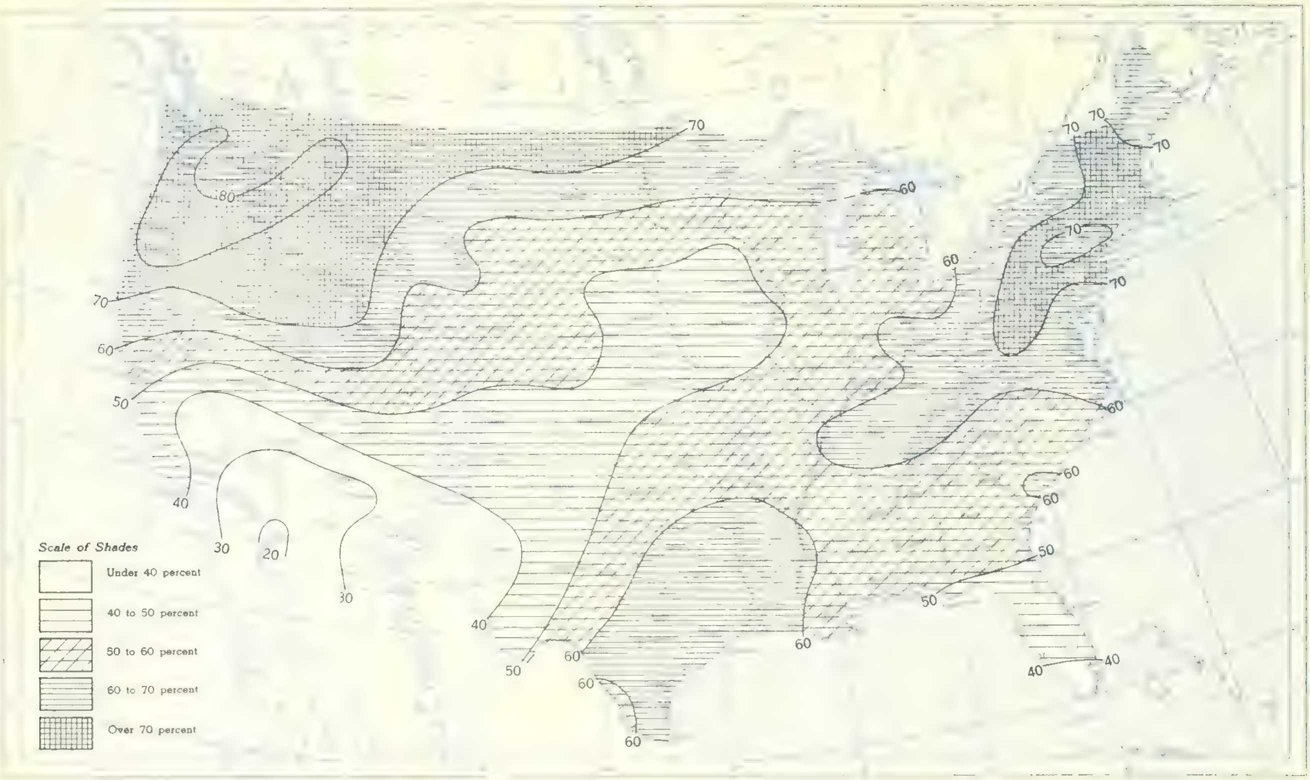


B. Depth of Snow on Ground (Inches). 7:30 a. m. E. S. T., April 25, 1955.

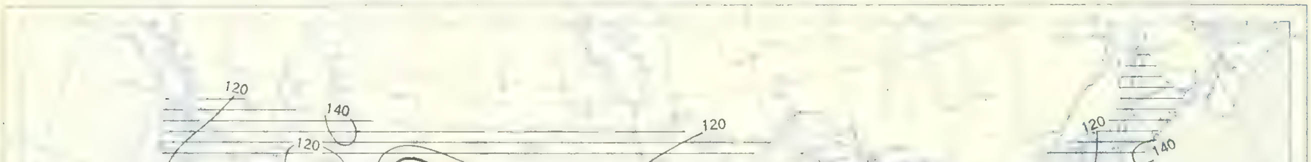


A. Amount of normal monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:30 a. m. E. S. T., of the Tuesday nearest the end of the month. It is based on reports from Weather Bureau and cooperative stations. Dashed line shows greatest southern extent of snowcover during month.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, April 1955.

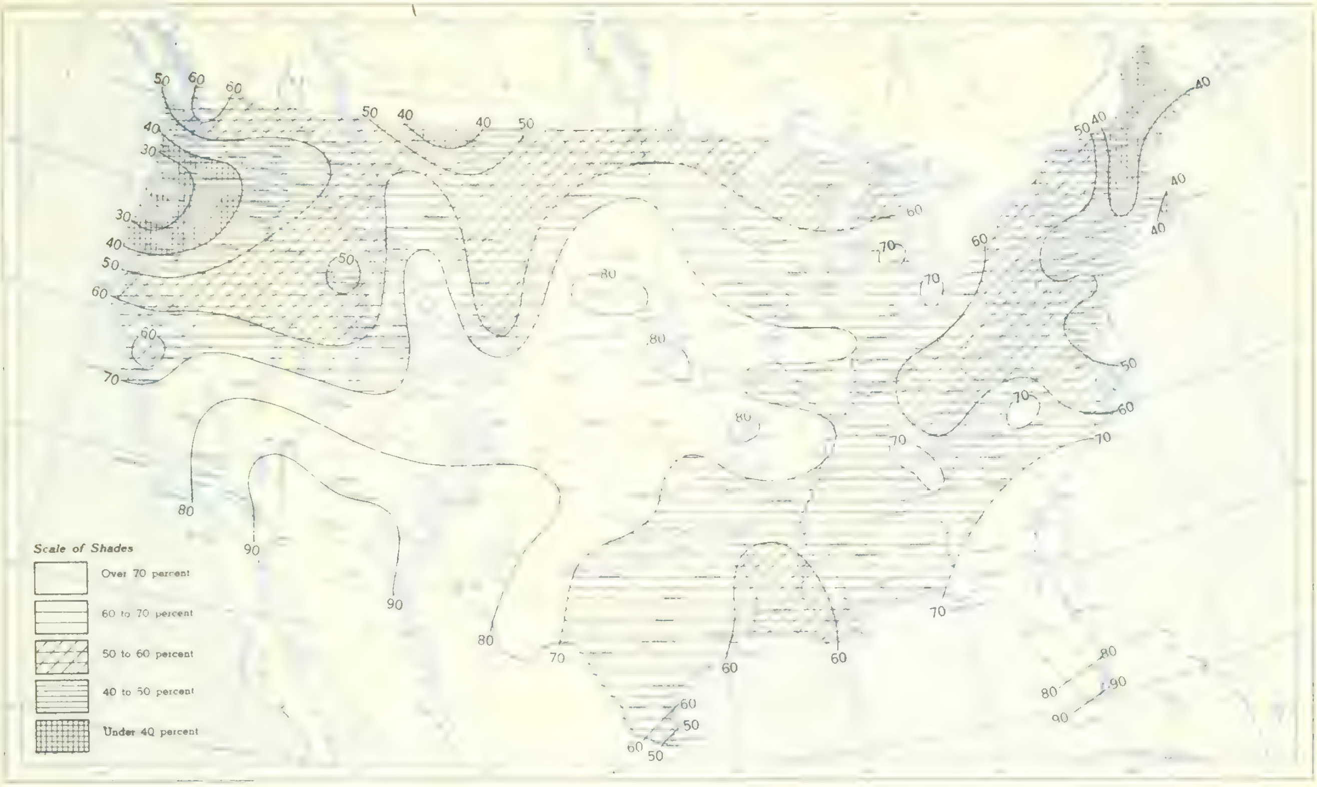


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, April 1955.

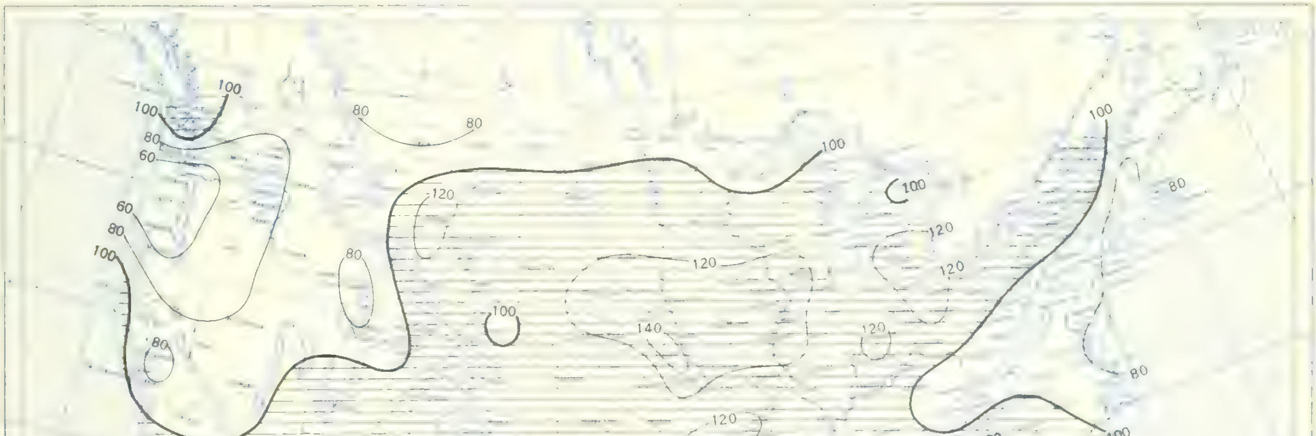


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, April 1955.

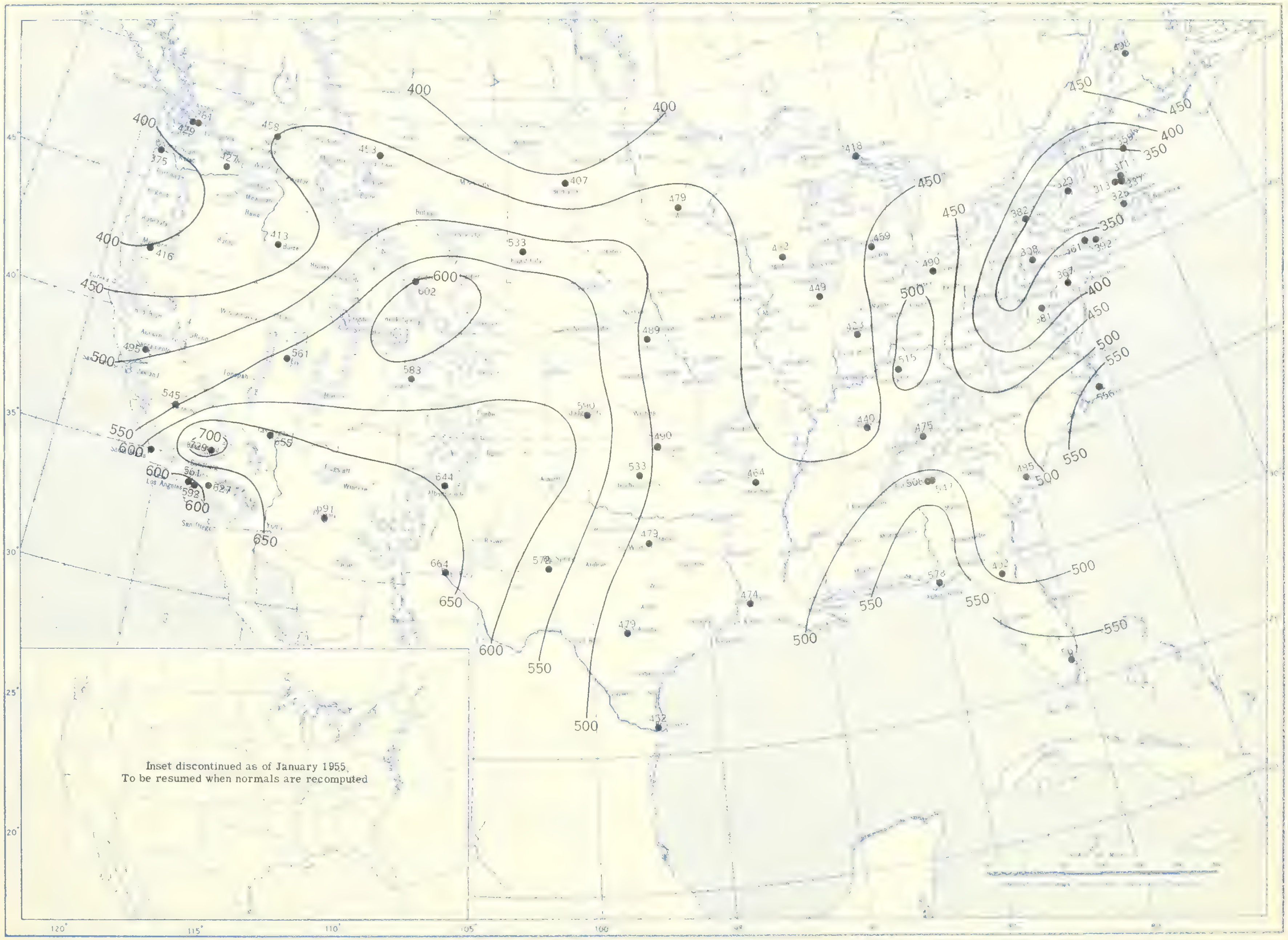


B. Percentage of Normal Sunshine, April 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

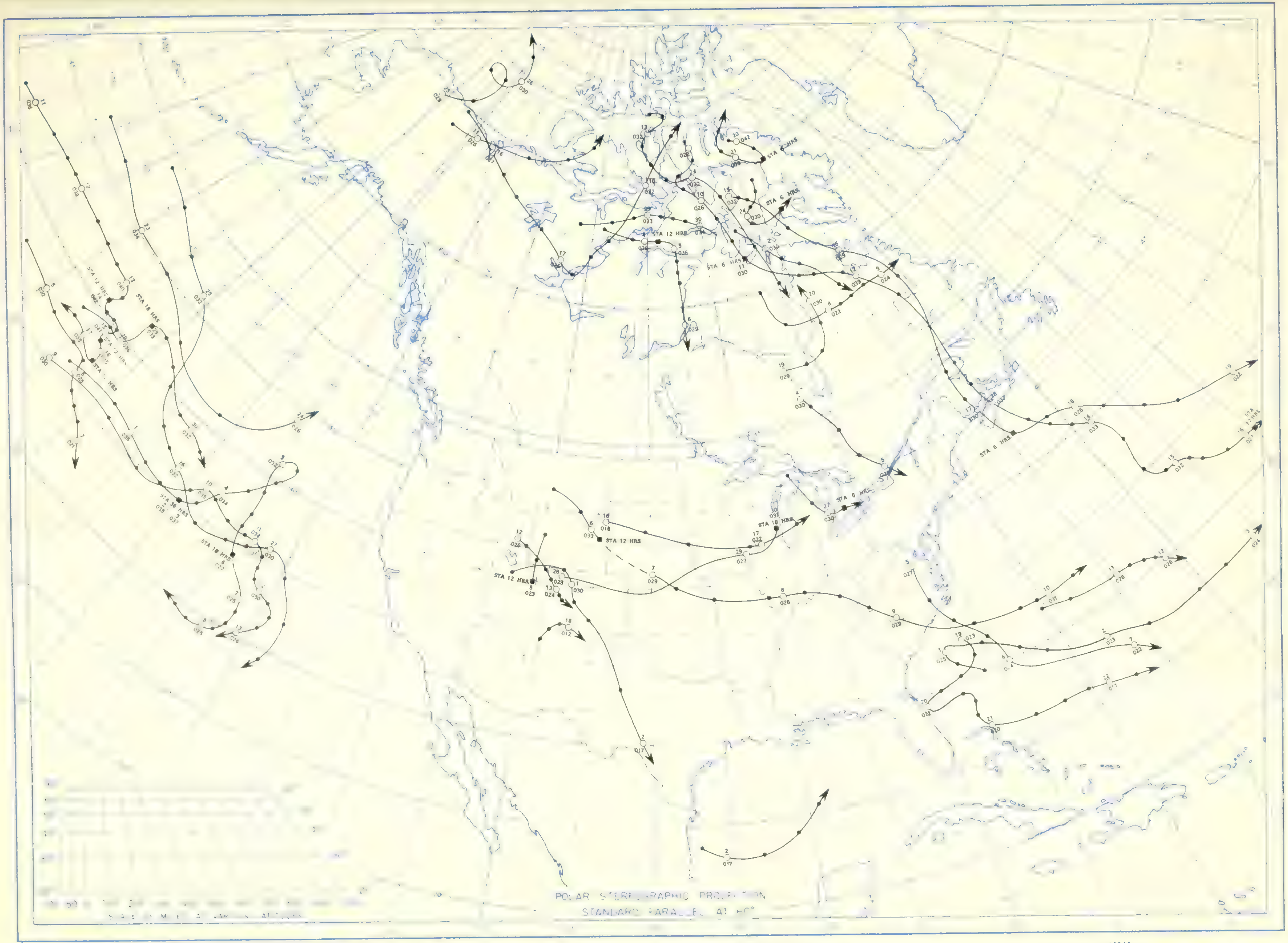
Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, April 1955. Inset: Percentage of Normal Average Daily Solar Radiation.



Inset discontinued as of January 1955.
To be resumed when normals are recomputed

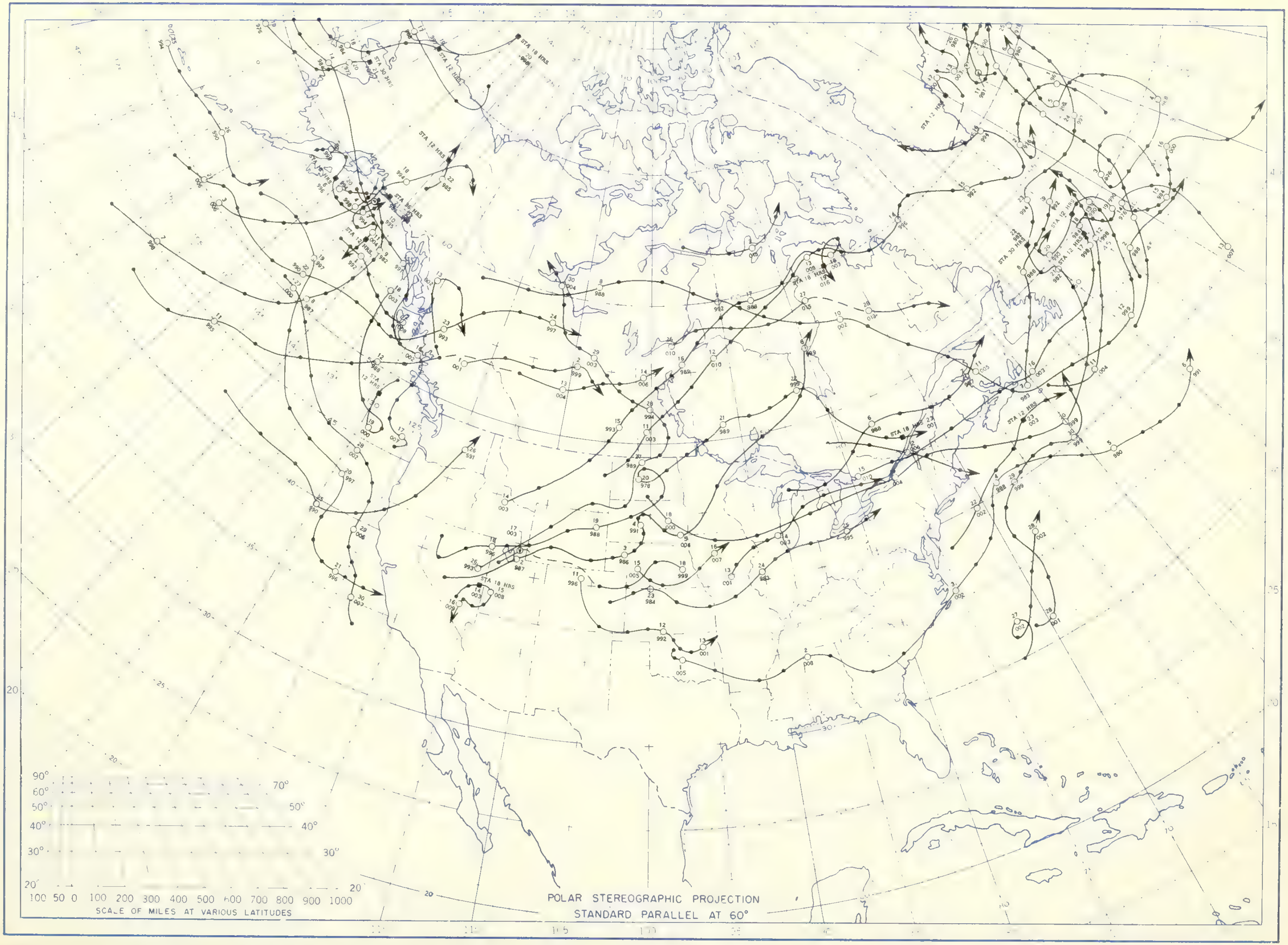
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley — 1 gm. cal. $cm.^{-2}$). Basic data for isolines are shown on chart. Further estimates are obtained from supplementary data for which limits of accuracy are wider than for those data shown.

Chart IX. Tracks of Centers of Anticyclones at Sea Level, April 1955.



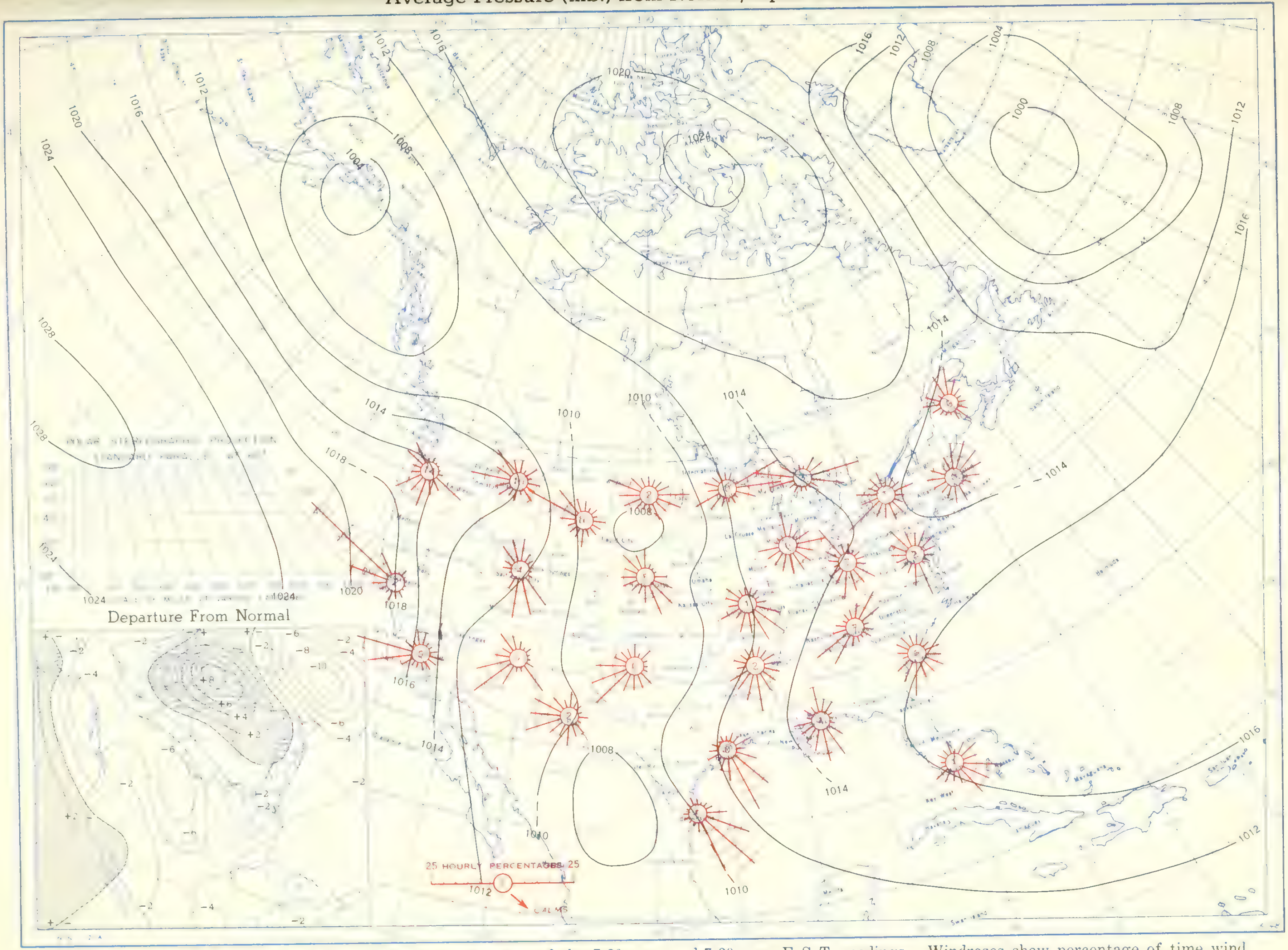
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, April 1955.



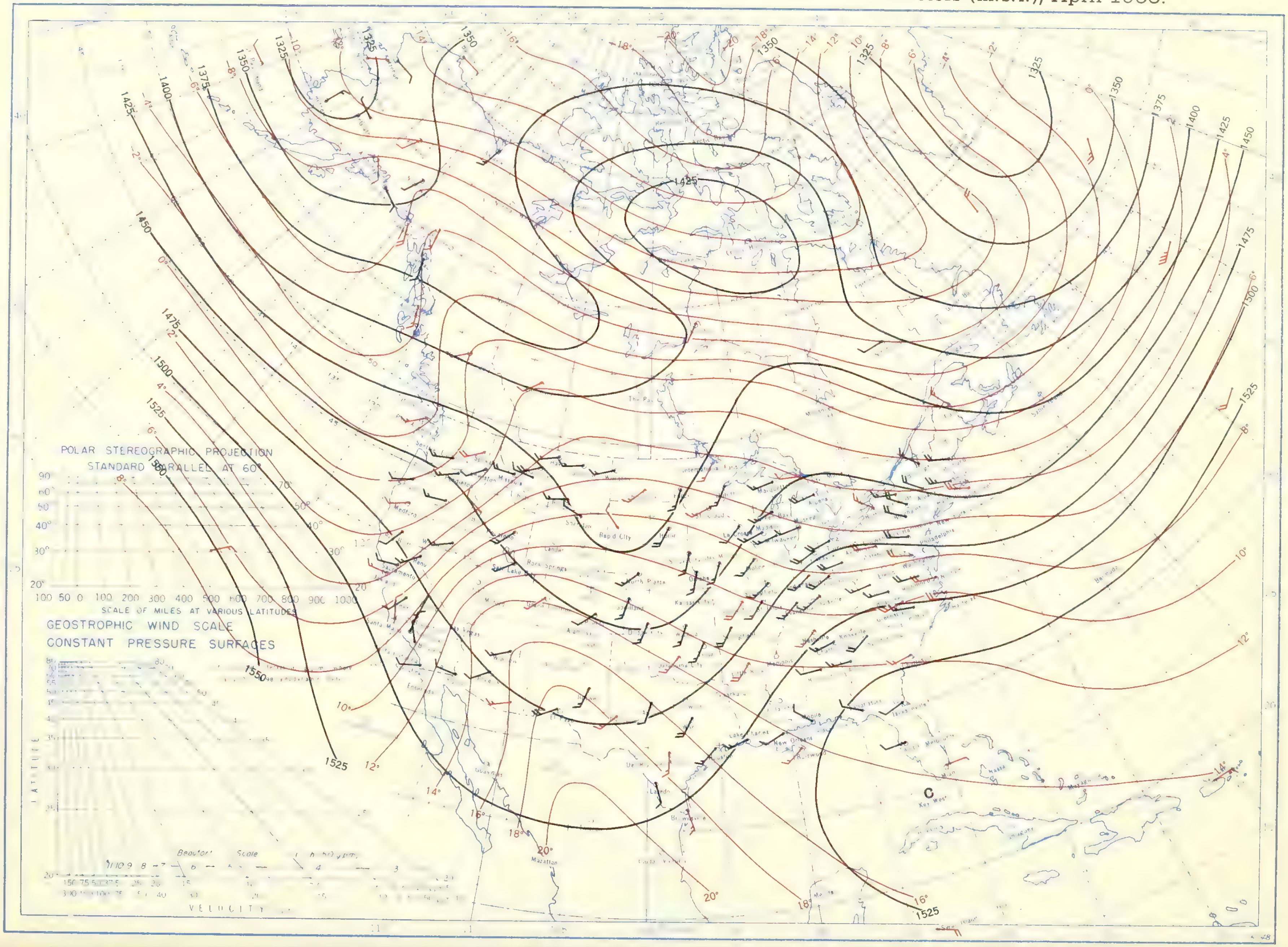
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Average Pressure (mb.) from Normal, April 1955.



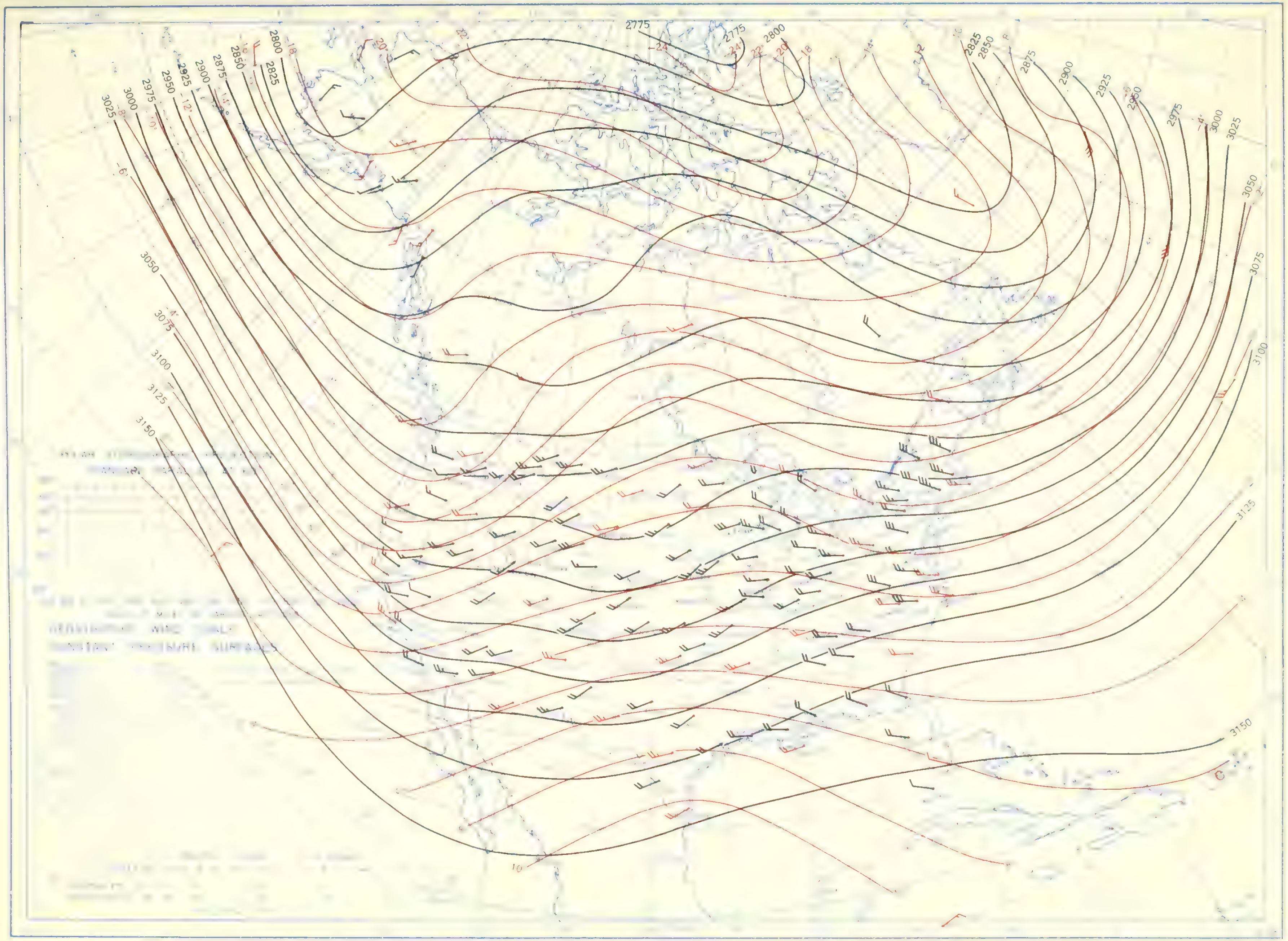
Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), April 1955.



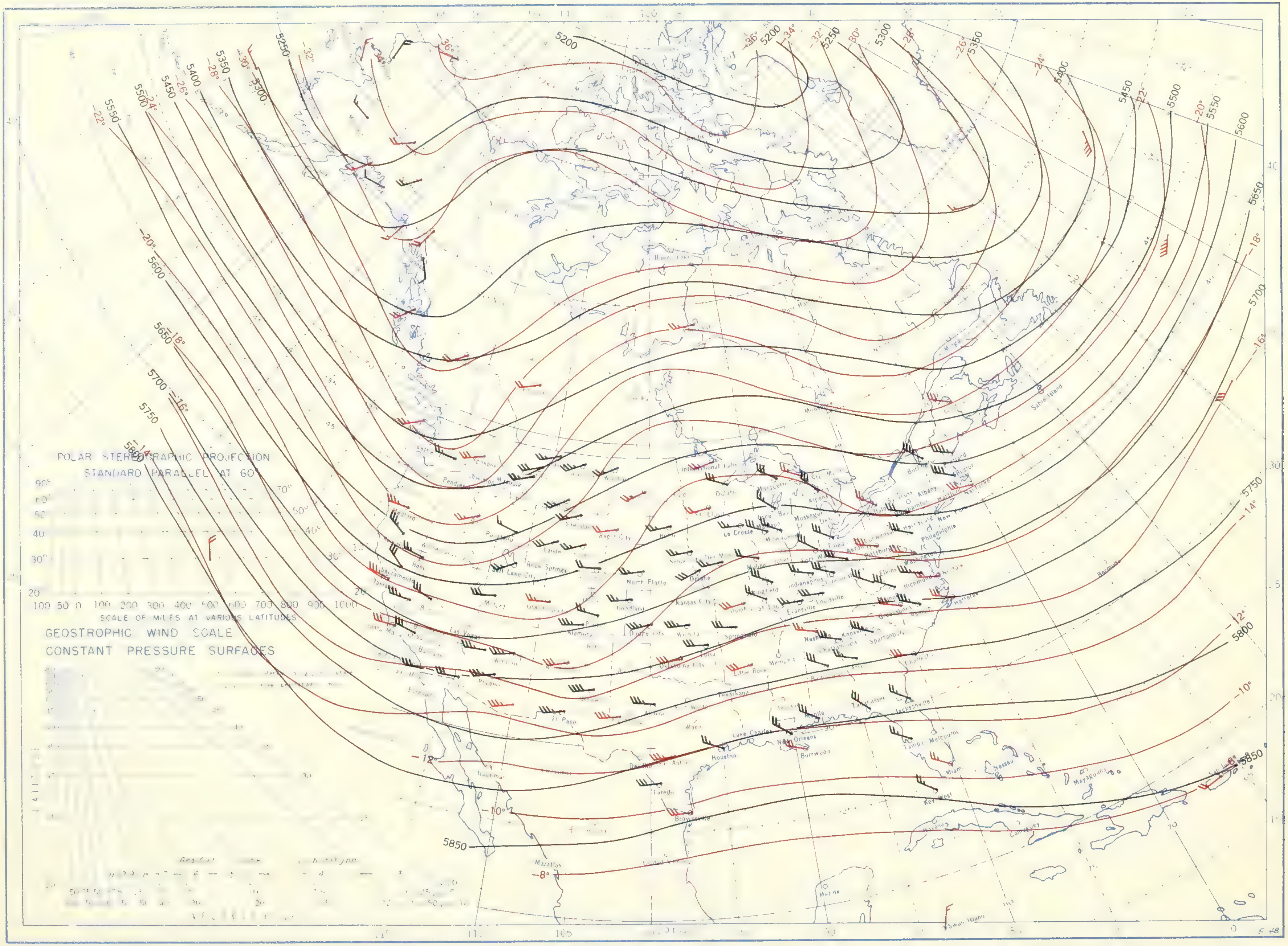
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.

Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), April 1955.



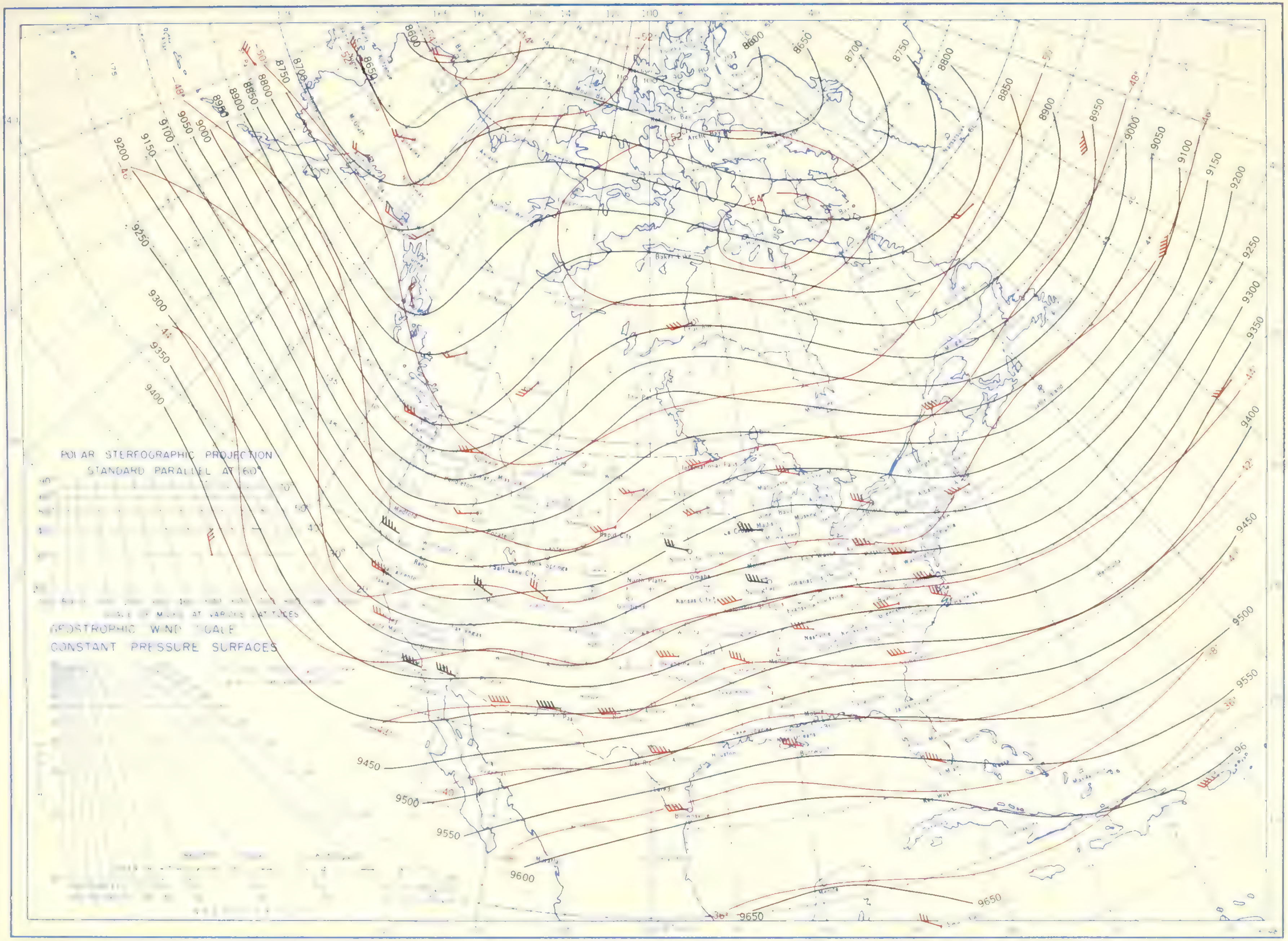
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), April 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;

Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), April 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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F. W. REICHELDERFER, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MAY 1955
Volume 6 No. 5

ASHEVILLE: 1955

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CHARTS I-XV

NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTME

olume 6 No. 5

MAY 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

Unseasonably cold, rather dry weather in the far st was in sharp contrast to the unusual warmth and nerous precipitation east of the Continental vide. Crop development and agricultural activi- es, 2 to 4 weeks late in the Pacific Northwest nd upper Rocky Mountain region as a result of an nusually cold spring, were well ahead of normal n the acrigultural East where they had benefited rom a favorable combination of above-normal tem- erature and ample moisture. Continuing during he first 2 or 3 weeks of May, dry, windy weather, hich prevailed in the Great Plains during March nd April leaving crops in poor condition, caused urther crop deterioration before heavy rains occur- ed later in the month. The month's usual display f storms included a very destructive tornado in he Kansas-Oklahoma area on the 25th. Despite the ersistent warm weather in the East topped by rec- rd seasonal high temperatures in northern areas n the 3d, 4th, and 5th, and in the Southeast on he 12th, two cool snaps produced frost and freez- ng over the Northeast near the close of the first ecade, and over the Northeast and interior portions f the Atlantic Coastal States as far south as irginia again on the 18th. Temperatures in Texas emained at summer levels during most of the month, axima occasionally exceeding 100° in the Rio Grande alley. Heavy rains over south-central portions f the Nation, while building up soil moisture eserves, caused local flooding in the central reat Plains and Gulf States, and kept soil too et to work in Tennessee and some adjacent areas.

PRECIPITATION.--Preceding the drought-breaking ains in the Great Plains during the latter part f the month, high winds whipped up some of the orst duststorms since the 1930's. High winds n the 3d set a new May record of 67 m.p.h. for argo, N. Dak., and at Helena, Mont., the monthly verage speed of 10.9 m.p.h. was a new May record here. High winds also caused locally severe dust- torms in the Great Basin, one of the worst occur- ing near Milford, Utah, on the 13th and 14th when inds up to 81 m.p.h. in gusts lifted dust to a eight of 15,000 feet.

Heavy rains which greatly alleviated or complete- y relieved the drought in the central and lower reat Plains fell on the 17th, 18th, and 19th. he heaviest falls occurred in southeastern Colorado nd adjacent areas of Kansas, Oklahoma, Texas and ew Mexico where storm totals of 1 to over 10 inches aused severe local flooding which damaged crops, ighways and bridges, and railroads. Additional ains in this area during the last decade produced onthly totals which ranged up to 11.74 inches at ye, Colo., 11.38 at La Cygne, Kans., 18.05 at Comanche, Kans., 12.32 at Valley View, Tex., and 15.86 nches at Lake Maloya, N. Mex. No station in Oklahoma reported less than 2.40 inches of rainfall or the month. The heaviest rains in the northern reat Plains as well as in many other sections of he North Central Interior fell on the 25th, 26th, nd 27th during the passage of a well developed low ressure system from the Southwest. Unusually heavy ains fell in northern and central Arkansas on the night of the 26th when Little Rock reported 3 inches in an hour, 4.60 inches in 2 hours, and 7.70 inches in 6 hours, all new records there. This heavy rainfall flooded parts of the city, causing damage estimated at $1,000,000.

The midmonth storm in the Great Plains extended over the Southern States from the 20th to 22d, producing general rains of 2 to 3 inches and much greater amounts locally. One of the heaviest falls occurred at Geneva, Ala., where 12.62 inches fell between 10:00 a.m. and 3:00 p.m. on the 22d, resulting in a flash flood which caused heavy damage in Geneva and vicinity. Many stations in the South had monthly totals exceeding 10 inches. Some of the greatest totals were: Geneva, Ala., 15.46 inches; Suches, Ga., 12.81; Keo, Ark., 13.76; and Singer, La., 13.59 inches.

West of the Great Plains precipitation was generally below normal, although quite heavy locally, particularly in mountainous areas. Drought persisted in many areas of Utah and continued to threaten many sections of Nevada and Arizona.

Owing to the subnormal temperatures in the Rockies and far West, much of the precipitation at higher elevations was in the form of snow. From the 13th to the 15th, 25.5 inches of snow fell at Rogers Pass, Mont., and from the 17th to the 19th, 22 inches (with a water equivalent of 4.55 inches) fell at Black Lakes, N. Mex. In Idaho monthly totals ranged up to 22 inches at Deer Point, and in the mountains of California monthly totals ranged up to 30 inches and several inches of snow fell in the Sierras as late as the 30th and 31st.

TEMPERATURE.--The temperature anomaly pattern for May was similar to that of April as departures again were above and below normal east and west of the Continental Divide respectively. Minus departures in the far West decreased from 6° in northern Idaho to about 2° along the coast and in the extreme southern portion while plus departures east of the Rockies increased from about 2° along the Gulf Coast to 6° in parts of the northern Great Plains and 4° in parts of the Northeast.

In the far West May was the sixth consecutive month with below-normal temperatures and brought to a close one of the coldest spring seasons there on record. A remarkable example of the persistent cold in the Pacific Northwest was furnished by the State of Washington whose average temperature was at a record low level for each of the spring months. (March, April, and May). At many stations in this State the temperature reached normal levels or above on only 2 or 3 days during the entire month of May. Freezing occurred in the Great Basin and central and northern Rockies as late as the 27th and 28th; however, the lowest temperatures were recorded over most of the far West near midmonth when a low of 17° was reported as far south as Maverick, Ariz., on the 16th, and the month's lowest temperature, -1°, occurred at Fraser, Colo., on the 17th.

Although May as well as the spring season was unseasonably warm east of the Divide, temperatures fluctuated more than in the far West. During a heat wave early in the month, caused by a rapid northward flow of gulf air as a strong low pressure system crossed the northern Great Plains, maxima in the low 90's and high 80's extended almost to the Canadian Border. On the 3d Chicago, Ill., and Detroit, Mich., reported record early-season highs of 92° and 88°, respectively. Temperatures were unusually high in the Southeast on the 12th when Jacksonville, Fla., Macon, Ga., and Charleston, S.C., reported 98°, 95°, and 96°, respectively. Temperatures of 100° and above occurred mainly in the Rio Grande Valley of Texas where Rio Grande City recorded the month's high of 112° on the 27t

DESTRUCTIVE STORMS.--Of the numerous severe loca storms during May, one was outstanding. This wa a tornado which left a path of destruction in Oklahoma and Kansas on the 25th. Blackwell, Okla., an Udall, Kans., were particularly hard hit, the latt town being almost completely destroyed. An unusua ly severe hailstorm, occurred in Udall some ti after the tornado's passage, but no damage result as there was nothing left to be damaged. The tornado killed 100 persons, injured 550, and was respo sible for damage estimated at $10,225,000.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

MAY 1

Section	Temperature								Precipitation					
	Average	Departure from normal	Monthly extremes						Average	Departure from normal	Monthly extremes			
			Station	Highest	Date	Station	Lowest	Date			Station	Greatest	Station	Lea
	°F	°F		°F			°F		In	In.		In.		In
Alabama	73.5	2.1	2 Stations	99	6+	3 Stations	41	1+	5.58	1.68	Geneva	15.46	Fort Morgan	1.
Arizona	67.0	-1.8	Cortaro 3SW	108	29	Alpine	12	3+	15	-.17	Beaverhead Lodge	1.43	47 Stations	.
Arkansas	72.6	2.2	Camp Chaffee	97	1	Gravette	42	30	6.37	1.50	Keo	13.76	Waldron	1.
California	60.8	-1.3	2 Stations	109	20+	Twin Lakes	8	3	.69	-.15	Squirrel Inn 2	5.15	49 Stations	.
Colorado	53.7	1.1	do	95	6+	Fraser	-1	17	2.74	.99	Rye	11.74	Hiawatha	.
Connecticut	60.5	3.0	Hartford Brainerd Fld	91	5	Falls Village	24	10	1.51	-2.30	Cream Hill	3.09	2 Statipns	.
Delaware	64.9	1.7	3 Stations	93	29	Georgetown 5SW	35	18	1.73	-1.93	Georgetown 5SW	2.62	Wilmington City Hall	1.
Florida	77.3	1.3	Ocala 2NE	101	10	Jasper 9ESE	42	1	2.87	-.96	LaBelle	9.24	Dry Tortugas	.
Georgia	73.8	1.7	Eastman	101	25	Blairsville Exp Sta	34	1	4.23	.78	Suches	12.81	Savannah Beach 2N	.
Idaho	50.2	-3.0	Swan Falls PH	91	20+	3 Stations	15	7+	1.49	-.10	Grangeville	4.60	Burley	.
Illinois	65.2	2.5	2 Stations	93	21+	Marengo	32	18	4.09	-.04	Quincy Memorial Br.	8.69	E.St.Louis Pk. Col.	1.
Indiana	63.8	1.8	Evansville	94	4	Waterloo	26	9	3.77	-.33	West Lafayette 6NW	6.68	Monroeville	1.
Iowa	63.6	3.2	Onawa	94	6	3 Stations	28	8	2.71	-1.24	Perry 2SE	6.57	Lake View	.
Kansas	66.7	2.9	Cimarron	99	6	Burr Oak	34	8	4.84	1.07	La Cygne	11.38	Mc Pherson	1.
Kentucky	67.3	1.9	2 Stations	93	26+	Grayson	32	9	4.39	.40	West Port	8.17	Burdine 2NE	1.
Louisiana	76.0	2.2	Converse	97	5	2 Stations	49	4+	5.73	.60	Singer	13.59	Oak Ridge 1N	1.
Maine	55.4	2.9	West Buxton	94	22	Ripogenus Dam	20	1	2.98	-.30	Moosehead	5.46	Rockland	1.
Maryland	65.2	2.3	Frederick Pol. Brks.	95	24	Oakland 1SE	27	18	2.19	-1.51	Denton	4.07	Ocean City	.
Massachusetts	59.9	3.3	Lowell	92	29	West Cummington	26	10	1.61	-1.87	Heath	6.00	Northbridge	.
Michigan	57.7	3.8	Onaway 12S	93	3	Cadillac Municipal AP	15	9	2.79	-.53	Newaygo Croton Dam	5.99	Rogers City	1.
Minnesota	57.7	4.8	3 Stations	93	2+	Crookston NW School	18	8	2.32	-.83	Grand Rapids NC School	6.76	Minneapolis WB AP	.
Mississippi	74.6	2.7	Laurel	97	27	2 Stations	44	1+	4.59	.23	Tupelo	9.80	Mount Pleasant	1.
Missouri	67.1	2.5	Poplar Bluff	99	3	do	34	8	5.22	.44	Butler CAA AP	9.95	Tarkio	1.
Montana	50.4	-2.5	Miles City	94	1	do	12	7+	2.96	.97	Busby	5.42	Rexford RS	.
Nebraska	63.4	4.1	2 Stations	99	6	do	27	5+	3.05	-.39	Mullen 21NW	7.98	Walthill	.
Nevada	55.1	-1.9	Overton	104	22	do	12	15	1.08	.30	Lamoille PH	2.71	North Las Vegas DOX	.
New Hampshire	58.1	4.1	3 Stations	90	29+	Grafton	22	18	2.91	-.45	New London	4.97	McDowell Dam	1.
New Jersey	63.1	2.8	Hamondton 2NNE	95	30	Layton 3NW	27	10	1.46	-2.39	Elizabethport	3.78	2 Stations	.
New Mexico	59.7	-1.3	Jal	99	24	Quemado	14	3	1.50	.31	Lake Maloya	15.86	4 Stations	.
New York	59.1	3.2	Ritton	94	29	Speculator	17	10	2.32	-1.31	Piseco	5.17	Hempstead Malverne	.
North Carolina	69.0	1.6	Clinton	98	6	Banner Elk	29	9	3.82	-.12	Haywood Gap	13.86	Daybook	1.
North Dakota	57.5	3.6	Underwood	97	22	Arvilla State Park	14	8	2.62	.35	Linton	4.42	Scranton	1.
Ohio	[illegible]	2.5	Ironton	92	4	Wauseon Sewage	26	9	2.72	-1.00	Gallipolis 5W	6.66	Tappan Dam	.
Oklahoma	71.1	2.9	Hollis	105	7	Kenton	41	12	7.96	3.14	Comanche	18.05	Zoe	2.
Oregon	50.5	-3.5	Rome	91	20	Fremont	8	14	1.05	-.70	Government Camp	6.43	3 Stations	T
Pennsylvania	61.8	2.2	5 Stations	92	5+	2 Stations	24	7+	2.04	-2.00	Waynesburg 2W	6.62	West Chester	.
Rhode Island	56.5	2.5	Greenville	86	25	Kingston	33	2+	1.56	-1.88	Providence WB AP	2.37	Block Island WB AP	.
South Carolina	72.8	1.8	Walterboro	99	11	Chester	37	3	4.26	.77	Sassafras Mountain	10.33	Givhans Ferry State Park	.
South Dakota	61.5	5.1	Wagner	98	2	Cheyenne Agency	20	8	2.49	-.36	Wood	6.59	Yankton 3NNW	.
Tennessee	69.5	2.6	Memphis WB AP	94	5	Gatlinburg 2SW	35	1+	4.95	.83	Lawrenceburg 2N	10.57	Sevierville 1SE	1.
Texas	74.9	2.4	Rio Grande City	112	27	Mount Locke	37	12	3.87	.46	Valley View	12.32	2 Stations	.
Utah	54.9	-.8	St. George PH	97	21	Moon Lake	10	28	.71	-.38	Park Valley	2.63	3 Stations	.
Vermont	58.0	3.9	3 Stations	89	1+	Cavendish	26	18	2.62	-.74	Rutland	4.40	Gilman	1.
Virginia	66.1	1.9	2 Stations	95	28+	Burkes Garden	30	9	2.82	-.98	Manassas	6.34	Newport 2NW	.
Washington	50.7	-4.6	Richland	89	20	Rainier Paradise RS	19	1+	1.59	-.31	Cedar Lake	9.53	Ellensburg	.
West Virginia	63.5	1.7	2 Stations	94	28+	Cranberry Glades	24	18	3.33	-.69	Ripley	6.04	Union	1.
Wisconsin	59.0	3.8	do	91	3+	Long Lake Dam	19	17	3.42	-.09	Hatfield Dam	8.02	Saint Croix Falls	1.
Wyoming	51.7	1.7	Yoder	92	15	2 Stations	10	3+	1.99	.01	Rockypoint 1E	5.60	Pole Mountain	.
Puerto Rico	77.2	.3	Mayaguez (4)	95	1+	Garzas Dam	51	5	5.95	-1.75	Lares	16.70	Melania Dam	.

+ And also on a later date or dates

Note Dates in Table 1 apply to the period 24 hours prior to time of observation In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observatio

able 2

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover - tenths sunrise to sunset	Percent of possible sunshine
												No of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft	Mb	Mb	°F	°F	°F	°F	°F		°F				°F	%	In	In	In			In	In	M p h		M p h			0-3	4-7	8-10	0-10	%
ALABAMA																																
irmingham	610	990.7	1015.8	85	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	4	0	59	[illegible]	4.81	1.07	[illegible]	10	[illegible]	[illegible]	0	7.2	NE	14	SW	[illegible]	1	16	[illegible]	[illegible]	[illegible]
obile	211	1007.7	1015.6	87	67	[illegible]	3.6	92	[illegible]	60	1+	9	0	66	74	3.88	-.76	2.13	9	[illegible]	0	0	9.3	S	--	--	--	6	16	[illegible]	5.7	[illegible]
ontgomery	198	1008.3	1015.8	87	64	75.1	2.6	93	[illegible]	51	3	13	0	63	[illegible]	7.03	3.57	2.38	[illegible]	11	0	0	[illegible]	SE	13	SW	13	7	12	[illegible]	[illegible]	[illegible]
ARIZONA																																
lagstaff	6993			[illegible]	31	[illegible]	1.9	[illegible]	21+	16	1	[illegible]	17			[illegible]	[illegible]	[illegible]	4	2								24	[illegible]	[illegible]	1.1	
hoenix	1114	971.2	1009.5	89	62	75.6	[illegible]	[illegible]	[illegible]	45	3	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	[illegible]	E	[illegible]	SSE	[illegible]	31	[illegible]	[illegible]	[illegible]	[illegible]
rescott	5014	845.2	1011.4	75	44	59.2	[illegible]	89	29	23	3	0	4			.04	-.26	.04	2	0	0	0	[illegible]	SSW	60	SE	31	15	12	1	3.6	[illegible]
ucson	2558	922.8	1009.8	87	56	[illegible]	1.3	[illegible]	29	42	3	13	0	[illegible]	[illegible]	.03	[illegible]	.02	2	[illegible]	0	0	7.7	SE	34	S	[illegible]	21	[illegible]	[illegible]	[illegible]	[illegible]
inslow	4880	849.0	1009.3	77	45	61.1	[illegible]	87	21+	29	3	9	[illegible]	[illegible]	25	[illegible]	[illegible]	.17	5	3	T	0	10.7	SW	*49	SW	31	16	10	5	[illegible]	
uma	199	1004.7	1009.9	93	61	76.7	-3.7	105	[illegible]	49	3	21	0	[illegible]	27	.00	[illegible]	.00	0	0	0	0	10.0	SSE	33	NW	24	27	3	1	1.4	96
ARKANSAS																																
ort Smith	458	996.3	1012.9	83	62	72.3	2.7	93	25	53	30	7	0	63	76	6.38	1.32	2.13	14	9	T	0	[illegible]	ENE	34	W	26	6	15	18	[illegible]	[illegible]
ittle Rock	257	1000.7	1013.6	84	63	73.2	3.4	92	25	56	2	4	0	61	69	11.55	6.70	7.71	10	[illegible]	T	0	[illegible]	ENE	37	S	26	4	13	14	[illegible]	[illegible]
exarkana	361	----	--	84	64	74.1	2.2	96	25	56	30	1	0			4.73	-.40	1.43	12	11	0	0										
CALIFORNIA																																
akersfield	489	995.6	1013.4	84	55	69.5	.7	102	[illegible]	41	1	10	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3	[illegible]	0	T	[illegible]	NW	*25	NW	6+	20	[illegible]	3	[illegible]	
ishop	4108	871.3	1011.2	77	40	58.2	4.4	92	21+	28	3	4	[illegible]			.06	.06	.72	5	1	T	T						18	[illegible]	6	[illegible]	
lue Canyon	5280	838.1	1013.5	61	42	51.[illegible]	[illegible]	77	[illegible]	[illegible]	3+	0	7			[illegible]	[illegible]	.48	[illegible]	[illegible]	[illegible]	[illegible]						14	10	7	4.[illegible]	
urbank	699	988.2	1014.4	72	53	62.4	-1.6	[illegible]	16	43	3	2	0	49	[illegible]	1.23	.96	.91	4	0	T	T	6.0	S	*21	N	17	6	15	10	5.[illegible]	
ureka CO	43	1018.0	1020.3	54	46	50.2	-2.7	60	17	41	10	0	[illegible]			[illegible]	-1.79	.02	3	0	[illegible]	0	9.4		40	NW	21	7	14	10	5.[illegible]	[illegible]
resno	331	1001.4	1013.1	79	52	65.6	-3.3	97	20+	42	15	6	0	45	54	.63	.35	.50	3	0	0	0	[illegible]	NW	[illegible]	NW	31	15	10		3.3	[illegible]
os Angeles CO	312	---	---	71	55	63.[illegible]	1.6	91	[illegible]	47	1+	1	0	[illegible]	[illegible]	[illegible]	1.17	1.07	4	[illegible]	T	0	[illegible]		[illegible]	W	[illegible]	[illegible]	17	[illegible]	5.2	[illegible]
os Angeles	99	1010.8	1014.6	68	54	61.[illegible]	-1.1	[illegible]	[illegible]	[illegible]	1+	[illegible]	0	51	77	[illegible]	.12	.31	4	0	0	[illegible]	7.6	WSW	*29	W	14	7	11	10	[illegible]	
Mt. Shasta CO	3544	892.3	1015.9	67	40	[illegible]	-.3	[illegible]	[illegible]	[illegible]	2+	[illegible]	5			[illegible]	-1.59	.08	[illegible]	0	T	[illegible]						18	9	4	3.6	
Oakland	3	1015.6	1015.9	67	48	57.7	-.7	[illegible]	19+	42	11+	[illegible]	0	46	71	[illegible]	-.26	.35	2	0	0	[illegible]	6.1	WSW	*25	WNW	26	18	10	3	[illegible]	
Red Bluff	341	1001.4	1013.8	82	55	68.5	.5	98	19+	45	14	9	0	38	[illegible]	.16	-.88	.16	[illegible]	0	0	0	10.8	NNW	[illegible]	NW	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]
Sacramento	17	1012.5	1013.5	80	51	65.2	1.2	95	20+	42	[illegible]	6	0	47	[illegible]	.57	.03	.55	3	0	0	0	10.1	SW	[illegible]	NW	[illegible]	20	[illegible]	[illegible]	[illegible]	[illegible]
Sandberg	4517	861.2	1012.2	63	43	53.[illegible]	[illegible]	84	29	31	1+	0	3			.59	[illegible]	.48	4	0	T	[illegible]						17	6	8	4.[illegible]	
San Diego	19	1011.5	1014.9	68	56	61.7	.5	81	[illegible]	49	[illegible]	0	0	52	71	.19	[illegible]	.15	3	0	0	0	8.2	WSW	22	SW	24	7	[illegible]	[illegible]	6.1	50
San Francisco CO	52			64	50	56.6	.5	82	23	46	15	1	0		-	.14	[illegible]	.11	1	0	0	0	10.2		31	W	25	23	3	5	2.5	85
San Francisco	1	1014.9	1015.6	67	47	57.3	.7	87	23	43	15		0	46	72	[illegible]	[illegible]	.09	2	0	0	0	15.2	WNW	43	WNW	13	26	7	1	[illegible]	
Santa Maria	238	1007.1	1015.9	63	46	54.6	3.1	81	28	35	[illegible]		0	47	77	.41	[illegible]	.25	4	2	0	0	7.4	WNW	*25	WNW	14	10	10	[illegible]	5.5	
COLORADO																																
Alamosa	7536	771.1	1015.1	65	33	49.1	1.7	76	30	13	4	0	15			1.24	.67	.84	7	2	6.5	T						8	10	13	6.2	
Colorado Springs	6173	808.7	1011.3	70	43	56.4	1.0	83	6	33	4	0	0	29	44	4.68	2.82	2.57	7	7	T	T	13.6	SSE	*37	S	15	10	11	10	5.[illegible]	
Denver	5292	835.4	1010.4	73	46	59.0	2.7	85	30	34	17	0	0	28	41	2.17	.27	1.21	8	3	T	T	13.1	S	42	NW	27	[illegible]	13	10	5.7	[illegible]
Grand Junction	4849	856.8	1010.8	73	48	60.4	-1.7	85	21+	35	16	0	0	30	37	1.30	.62	.52	4	2	T	0	11.9	ESE	47	SW	[illegible]	6	14	11	5.[illegible]	[illegible]
Pueblo	4639	854.0	1010.3	75	47	61.4	2.2	89	6+	36	[illegible]	0	0	33	41	4.08	2.35	2.37	9	5	T	T	[illegible]	S	56	SW	2	11	11	9	5.4	[illegible]
CONNECTICUT																																
Bridgeport	7	1014.5	---	73	51	62.1	4.9	86	5	40	10	0	0			.76	-2.82	.21	8	6	0	0						9	16	6	5.2	
Hartford	169	1008.5	1014.3	75	49	62.0	2.3	88	25	33	10	0	0	47	62	.78	-2.88	.26	9	6	0	0	11.7	S	30	NNE	17	[illegible]	12	12	5.8	65
New Haven	6	1014.0	1014.6	70	49	59.7	3.0	82	25	35	10	0	0		-	.89	-2.98	.22	9	5	0	0	6.4		21	E	5	7	15	9	5.6	76
DELAWARE																																
Wilmington	73	1012.3	1015.6	76	53	64.8	2.0	93	29	42	7+	2	0	51	64	1.18	-2.63	.53	9	2	0	0	8.2	S				8	14	9	5.6	
DIST OF COLUMBIA																																
Washington CO	72	-	-	78	58	68.0	2.8	89	29+	43	18	0	0		-	2.90	1.01	1.48	8	6	0	0	7.3	-	34	SW	29					
Wash. Nat'l AP	14	1011.9	1016.3	77	58	67.1	2.4	89	24	45	18	0	0	52	61	3.38	.60	1.57	8	6	0	0	10.5	SSW	17	SW	29	8	15	8	5.5	63
FLORIDA																																
Apalachicola CO	13	1015.3	-----	83	70	76.6	2.2	91	5	61	4	1	0			1.77	1.06	.61	6	7	0	0	7.8		12	N	17	17	9	5	3.6	67
Daytona Beach	31	1015.0	1016.6	87	65	75.7	1.3	95	12+	55	5	9	0	65	72	1.55	1.72	.6[illegible]	[illegible]	13	0	0	7.5	E	28	N	3	12	11	8	5.2	
Fort Myers	15	1015.7	-	90	65	77.6	.7	94	11+	56	2+	19	0		-	3.23	1.06	1.59	7	12	0	0	7.3		[illegible]	NE	3	20	6	5	3.5	
Jacksonville CO	214	----	- -	88	68	78.0	2.8	95	26+	58	4+	12	0			1.98	-1.65	.77	12		0	0										
Jacksonville	24	1015.5	1016.6	90	66	78.2	3.3	98	12+	55	1	20	0	64	69	1.51	1.08	2.00	9	7	T	0	[illegible]	SW	16	NE	[illegible]	9	14	8	[illegible]	[illegible]
Key West CO	5	1014.6	- -	88	74	81.1	1.3	90	31+	66	2	7	0			.19	-2.33	.45	3	3	T	T	[illegible]		31	NW	17	16	12	3	[illegible]	[illegible]
Lakeland CO	214	-	-	89	68	78.4	1.9	95	10+	60	3+	20	0		-	[illegible]	-2.34	.89	8	12	0	0	6.0					[illegible]	[illegible]	5	1	[illegible]
Miami CO	8	-----	-----	82	71	76.4	.7	88	6	59	3	0	0			3.64	-1.23	1.42	5	7	0	0	[illegible]		[illegible]	NE	1	12	16	3	4.3	
Miami	8	1014.8	1015.9	87	69	78.0	0	92	7+	58	3	3	0	68	74	[illegible]	-1.81	1.64	8	8	0	0	9.8	SE	45	N	[illegible]	10	13	8	5.0	
Miami Beach	9	------	--	84	73	78.3	1	92	31	63	3	1	0		-	2.86	-1.07	1.44	6	[illegible]	T	0						16	9	6		
Orlando	106	1012.4	1016.6	90	66	77.8	1.3	94	12+	58	3	19	0	65	70	3.13	-.89	1.93	8	13	T	0	[illegible]	S	*43	SSW	21	12	16	3	[illegible]	
Pensacola CO	13	1013.6	--- -	83	70	76.5	2.7	91	5	60	3	1	0	66	73	4.30	-.06	1.60	8	9	0	0	[illegible]		36	SE	20					[illegible]
Tallahassee	64	1013.6	1016.0	89	64	76.2	2.0	95	11	50	3	14	0	62	70	.85	-2.91	.29	[illegible]	10	0	0	5.6	S				9	11	11	5.6	
Tampa	19	1015.2	1016.5	87	66	76.8	.3	92	10	56	1+	[illegible]	0	66	74	.72	-2.57	.23	6	10	0	0	7.9	W	27	ENE	[illegible]	12	14	5	4.1	[illegible]
West Palm Beach	15	1015.1	1015.8	87	68	77.3	.2	[illegible]	31+	61	3+	3	0	65	77	1.27	-2.79	1.23	9	[illegible]	0	0	[illegible]	SE	[illegible]	NNW	[illegible]	11	9	[illegible]	4.6	
GEORGIA																																
Atlanta	977	982.1	1015.8	83	62	72.7	2.7	92	10	55	31	3	0	[illegible]	66	2.13	[illegible]	.90	[illegible]	5	0	0	[illegible]	NW	19	SW	21	6	12	[illegible]	[illegible]	[illegible]
Athens	798	987.4	---	85	60	72.5	2.1	93	10+	50	1	9	0			4.34	.51	1.50	[illegible]	7	0	0						12	10	9	5.1	
Augusta	143	1009.2	1015.7	87	60	73.6	.7	95	27	43	3	10	0	62	73	1.09	[illegible]	1.55	11	10	0	0	[illegible]	SE	*46	SSW	[illegible]	7	12	12	[illegible]	
Columbus	385	1002.1	- ---	86	62	73.7	1.7	94	16	47	3	12	0			[illegible]	[illegible]	2.13	10	10	0	0						7	9	15	6.2	
Macon	356	1002.2	1015.6	88	63	75.5	1.9	97	11	49	3	16	0	60	[illegible]	1.20	[illegible]	1.16	9	9	0	0	7.1	SSW	36	SE	[illegible]	11	[illegible]	12	[illegible]	[illegible]
Rome	637	993.0	--- --	84	58	70.8	1.6	93	10	47	3	7	0			6.60	2.53	[illegible]	10	[illegible]	0	0						5	13	[illegible]	[illegible]	
Savannah	48	1013.5	1015.9	87	63	74.9	2.0	97	11	51	3	[illegible]	0	66	76	[illegible]	-1.03	.57	[illegible]	12	0	0	[illegible]	SE	[illegible]	SW	[illegible]	8	11	[illegible]	[illegible]	[illegible]
IDAHO																																
Boise	2842	918.7	1014.4	66	42	53.6	-4.5	86	29	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	T	0	11.5	WNW	[illegible]	SE	11	10	6	15	[illegible]	
Idaho Falls 46W CO	4933	846.3	1012.9	65	35	49.8	-2.8	80	[illegible]	[illegible]	[illegible]	0	15	-		[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]	9.7		a31	SW	[illegible]					
Idaho Falls 43NW CO	4780	- -	- -	65	34	49.3	-2.7	81	20	20	1	0	[illegible]			[illegible]	[illegible]	[illegible]	16				[illegible]		a12	NNW	[illegible]					
Lewiston	1413	964.8	1016.6	66	41	53.3	[illegible]	83	19	32	14+	0	2			.96	[illegible]	[illegible]	[illegible]	[illegible]	T	T						[illegible]	[illegible]	[illegible]		
Pocatello	4444	860.5	1012.9	66	38	51.9	[illegible]	82	[illegible]	[illegible]	15+	0	[illegible]	[illegible]	[illegible]	.76	[illegible]	[illegible]	[illegible]	[illegible]	1.0	[illegible]	[illegible]	SW	[illegible]	S	[illegible]	[illegible]	10	12	[illegible]	[illegible]
ILLINOIS																																
Cairo CO	314	1001.7	- - -	80	62	71.0	2.2	90	1+	51	9	2	0		-	5.49	[illegible]	1.66	[illegible]	[illegible]	0	0	[illegible]		[illegible]	SW	[illegible]	7	[illegible]	[illegible]	6.3	[illegible]
Chicago	610	992.2	1014.9	75	52	63.8	[illegible]	92	[illegible]	[illegible]	9	[illegible]	0	45	55	3.86	[illegible]	1.31	[illegible]	[illegible]	T	T	[illegible]	S	[illegible]	W	26	[illegible]	[illegible]	12	5.5	65
Moline	589	993.2	1015.3	75	52	63.8	2.9	91	23	[illegible]	8	[illegible]	[illegible]	49	62	2.30	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]	13.1	E	[illegible]	SW	[illegible]	13	7	11	[illegible]	[illegible]
Peoria	654	993.2	1015.0	76	53	64.3	3.3	89	[illegible]	41	11	6	0	50	60	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10.6		[illegible]	SW	[illegible]	[illegible]	6	12	[illegible]	[illegible]
Springfield	587	991.5	1014.7	76	54	65.1	3.1	89	23	44	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	[illegible]	[illegible]	ENE	[illegible]	SW	[illegible]	10	[illegible]	13	[illegible]	[illegible]
INDIANA																																
Evansville	383	999.7	1015.3	78	56	67.0	1.5	90	[illegible]	44	[illegible]	1	[illegible]	56	[illegible]	[illegible]	[illegible]	1.20	12	1	T	T	[illegible]	SSW	[illegible]	SW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fort Wayne	801	984.1	1015.3	75	50	62.8	[illegible]	87	[illegible]	32	9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.10	.81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SW	[illegible]	SW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indianapolis	793	987.1	1015.9	75	53	63.6	2.2	87	[illegible]	39	9	0	[illegible]	[illegible]	64	3.37	[illegible]	1.18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SW	[illegible]	SW	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
South Bend	768	987.5	1015.6	73	48	60.4	2.0	88	3	31	9	0	1	[illegible]	[illegible]	2.20	1.64	1.08	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SSW	*10	SSW	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground) Ft	Pressure: Station Mb	Pressure: Sea level Mb	Temperature: Average maximum °F	Average minimum °F	Average °F	Departure from normal °F	Highest °F	Date	Lowest °F	Date	No. of days: Max. 90° F or above	No. of days: Min. 32° F. or below	Average dew point °F	Average relative humidity %	Precipitation: Total In.	Departure from normal In.	Greatest in 24 hours In.	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet, Hail: Total In.	Max. depth on ground In.	Wind: Average hourly speed M. p. h.	Prevailing direction	Fastest mile: Speed M. p. h.	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0–3	Partly cloudy 4–7	Cloudy 8–10	Sky cover, tenths (sunrise to sunset) 0–10
IOWA																															
Burlington	694	989.5	1015.1	75	52	63.3	1.4	87	23	39	8	0	0	51	66	5.03	1.21	1.30	16	8	T	T	10.1	S	41	W	6	12	7	12	5.5
Des Moines	948	983.1	1014.1	76	54	64.7	3.5	90	20	40	8	1	0	49	60	2.93	-.67	1.51	8	5	T	T	15.5	SE	70	W	28	8	7	16	6.4
Dubuque	1065	975.6	1014.7	72	49	60.6	2.7	87	23	35	8	0	0	48	61	3.42	-.05	1.60	7	6	.0	0	----	---	--	---	-	12	7	12	5.3
Sioux City	1094	971.6	1012.4	79	52	65.6	5.2	92	6	38	8	1	0	46	54	.60	-2.74	.25	8	3	.0	0	16.0	SSE	52	S	25	11	8	12	5.6
KANSAS																															
Concordia CO	1375	963.1	---	79	56	67.2	4.0	94	6	46	8	3	0	--	49	1.88	-1.73	1.21	8	10	T	T	8.9	---	31	NW	28	11	7	13	6.0
Dodge City	2594	925.5	1011.3	77	55	65.7	2.7	89	1+	46	29	0	0	50	63	7.99	5.08	2.67	13	11	T	T	16.4	SSE	70	SW	2	10	7	14	5.6
Goodland	3645	885.9	1011.3	76	47	61.5	3.4	93	31	37	3	2	0	40	53	1.22	-1.47	.67	8	4	.0	0	15.3	SSE	*54	SSE	15	11	9	11	5.5
Topeka	879	977.7	1013.3	78	55	66.7	2.9	90	6	42	8	1	0	54	66	4.62	.30	2.42	13	11	.0	0	12.5	E	43	SW	6	4	10	17	6.9
Wichita	1321	964.1	1011.9	79	57	68.3	3.1	92	2	48	4	2	0	54	66	4.02	.23	2.33	11	9	T	T	14.7	S	47	NW	27	9	6	16	6.3
KENTUCKY																															
Lexington	979	981.0	1016.0	77	56	66.2	3.6	85	26+	40	9	0	0	53	66	6.43	2.87	2.87	14	7	T	T	10.7	S	--	---	--	8	9	14	6.2
Louisville	474	996.4	1015.5	79	57	67.7	2.4	91	26	45	9	1	0	55	68	5.77	1.84	1.90	10	6	.0	0	8.7	SE	36	SW	28	8	7	16	6.3
LOUISIANA																															
Baton Rouge	64	1011.[illegible]	1014.5	88	66	76.8	[illegible]	90	25	58	2	6	0	65	71	4.20	-.72	3.96	7	4	.0	0	8.1	SSE	--	--	--	7	17	7	5.5
Lake Charles	[illegible]	1012.[illegible]	1014.1	87	68	77.3	2.8	90	22	62	3+	1	0	66	74	3.42	1.31	2.30	7	7	.0	0	9.5	S	*35	SSE	26	6	15	10	6.0
New Orleans CO	9	1013.2	------	88	72	79.7	3.6	91	22+	68	7+	4	0	--	--	4.81	-.62	4.61	6	7	.0	0	6.4	---	20	NE	19	11	14	6	4.8
New Orleans	3	1013.2	1015.0	88	68	78.3	3.7	92	22	60	3	7	0	67	73	5.38	-.16	3.48	6	6	.0	0	9.2	S	*35	WSW	15	11	13	7	4.8
Shreveport	252	1004.1	1013.4	86	66	75.7	1.9	92	25	57	30	5	0	66	76	9.64	5.09	4.66	9	9	T	T	9.6	S	--	---	--	2	11	18	7.4
MAINE																															
Caribou	624	989.2	1012.6	60	41	50.1	1.6	85	22	30	17	0	2	42	75	4.17	1.03	1.25	14	4	T	0	10.0	WSW	*32	NW	4+	1	7	23	8.2
Portland	61	1009.[illegible]	1012.2	69	43	56.0	3.7	86	22	30	10	0	3	48	71	2.33	-1.03	.93	8	8	.0	0	8.8	S	36	N	5	6	12	13	6.5
MARYLAND																															
Baltimore CO	14	-- -	--- -	77	59	67.9	2.6	90	29+	49	18	2	0	-	-	2.13	-1.88	.76	9	--	---	--	----	---	--	---	--	--	--	--	---
Baltimore	146	1011.4	1016.3	76	54	65.2	2.3	90	29	39	18+	1	0	52	65	2.34	-1.67	.83	11	5	.0	0	12.3	WNW	65	SW	29	10	13	8	5.3
Frederick	[illegible]	-----	- - --	76	52	64.0	1	90	29	35	7	1	0	-	-	2.28	1.32	.98	9	2	.0	0	- --	---	--	---	--	--	--	--	---
MASSACHUSETTS																															
Blue Hill Obs.	[illegible]	991.1	1014.4	72	49	59.0	3.[illegible]	87	25	36	10	0	0	-	65	1.21	-2.29	.67	10	2	.0	0	14.3	SSW	36	W	19	10	10	11	5.5
Boston	15	1008.9	1013.5	73	52	62.8	3.[illegible]	89	24	42	10	0	0	47	62	.99	-1.92	.31	9	3	.0	0	13.5	SW	*37	NW	9	9	13	9	5.3
Nantucket	[illegible]	1014.4	1015.[illegible]	61	46	53.2	.9	73	26	34	1	0	0	48	84	1.33	-1.58	.72	8	5	.0	0	13.6	SW	26	S	29	10	6	15	6.1
Pittsfield	[illegible]	972.5	1014.6	70	45	57.6	3.3	83	29	31	10	0	1	--	--	2.41	-1.35	1.75	12	6	.0	0	----	---	--	---	--	--	--	--	---
MICHIGAN																															
Alpena ( )	587	992.2	------	65	45	54.5	3.6	84	4	30	9	0	1	--	-	2.17	-.46	1.09	12	7	T	0	9.8	---	39	SE	7	8	12	11	5.4
Detroit	[illegible]	988.8	1015.5	73	51	61.9	4.[illegible]	88	3	34	9	0	0	46	58	1.16	-2.45	.59	8	3	.0	0	9.8	S	38	NW	5	6	12	13	6.2
Detroit (Willow Run)	722	986.8	1015.3	74	50	62.0	3.6	88	3	33	9	0	0	46	60	2.91	-.53	1.34	6	2	.0	0	10.6	SW	*37	W	5	8	12	11	6.1
East Lansing CO	856	- - --	-----	73	49	61.0	4.5	87	3	30	9	0	1	-	--	1.53	-2.22	.65	8	4	.0	0	5.2	---	18	W	5	--	--	--	---
Escanaba CO	594	991.5	------	63	44	53.6	3.8	80	18	30	9	0	1	--	-	2.37	-.23	.79	13	8	.0	0	10.8	---	37	N	16	11	11	9	4.9
Grand Rapids	681	989.8	1015.1	72	48	59.6	3.3	87	3	29	9	0	1	46	62	1.83	-1.62	.49	11	5	.0	0	9.0	W	35	W	5	10	10	11	5.8
Marquette	677	986.8	---	65	43	54.0	4.4	91	3	28	9	1	3	-	57	4.19	1.55	2.22	13	6	T	T	8.2	---	34	SW	4	11	9	11	5.7
Muskegon	627	991.9	1015.3	69	46	57.5	3.2	82	21	28	9	0	1	44	59	3.22	.40	2.16	11	8	T	0	----	---	--	---	--	10	10	11	5.2
Sault Ste. Marie	721	992.2	1015.0	65	41	52.7	3.8	80	3	27	9	0	3	40	66	1.75	-.80	.62	11	4	T	T	9.1	WNW	31	NW	8	10	6	15	5.7
MINNESOTA																															
Duluth	1409	972.2	1013.7	65	41	53.1	3.4	85	21	28	17	0	4	40	64	2.97	-.20	1.76	10	3	T	T	14.0	E	50	NE	15	6	11	14	6.3
Intern'l Falls	1179	969.5	1012.8	68	41	54.4	3.5	88	21	23	8	0	5	41	64	2.67	.14	.88	13	4	T	T	9.9	---	--	---	--	3	12	16	7.0
Minneapolis	830	980.4	1013.4	75	52	63.3	4.8	90	2	33	8	1	0	45	56	.69	2.43	.29	6	2	.0	0	13.3	SE	*44	WNW	7	16	8	7	4.4
Rochester	1017	976.6	1013.6	74	48	60.8	4.0	88	2	29	8	0	1	47	62	2.12	-1.26	.79	9	3	.0	0	10.3	SE	--	---	--	14	6	11	4.8
St. Cloud	1034	974.6	1012.5	73	47	59.8	4.6	89	2+	29	8	0	1	45	59	.88	-2.22	.34	6	4	.0	0	10.1	SSE	--	---	--	15	8	8	4.7
MISSISSIPPI																															
Jackson	315	1002.9	1014.7	88	65	76.1	3.8	93	27+	56	2	12	0	62	67	5.18	1.09	1.65	10	8	T	0	7.4	S	42	NW	20	6	14	11	6.1
Meridian	294	1001.6	----	88	63	75.3	3.8	93	9	49	2+	14	0	--	--	3.52	-.47	1.76	7	9	.0	0	----	---	--	---	--	7	18	6	5.4
Vicksburg CO	234	1004.5	----	85	67	75.6	2.7	90	25	60	31	1	0	--	--	6.67	2.45	2.83	9	9	T	T	7.8	--	34	SE	20	2	15	14	6.9
MISSOURI																															
Columbia	778	985.8	1013.9	76	56	65.9	2.3	88	4	42	8	0	0	54	68	4.12	-.72	1.60	13	8	T	T	9.2	ENE	38	NW	7	5	11	15	6.6
Kansas City	741	979.0	1013.6	76	59	67.6	2.1	88	4	49	8	0	0	54	65	7.44	3.03	2.61	14	10	T	0	11.3	ENE	54	SW	6	5	8	18	7.1
St. Joseph	809	------	- --	77	56	66.3	1.8	88	6	42	8	0	0	-	--	2.53	-1.54	1.18	10	13	.0	0	----	---	--	---	--	--	--	--	---
St. Louis CO	465	994.2	------	78	61	69.2	3.0	90	23	53	8	1	0		-	1.99	-2.11	.47	11	6	.0	0	10.9	---	48	S	26	8	10	13	6.2
St. Louis	552	994.2	1014.6	79	58	68.3	2.9	90	23	49	8	1	0	54	63	2.45	-1.57	.58	11	5	.0	0	10.0	S	--	---	--	8	9	14	6.4
Springfield	1265	966.5	1013.7	76	57	66.6	3.0	87	4	48	30	0	0	56	74	5.54	.52	1.12	13	5	T	0	13.4	SSE	56	SW	26	3	12	16	7.3
MONTANA																															
Billings	3568	888.6	1012.0	66	43	54.4	-1.6	82	20	36	15+	0	0	39	61	4.27	2.47	1.10	16	5	T	T	11.8	N	57	NW	8	8	6	17	6.6
Glasgow CO	2090	937.0	1012.2	66	42	54.1	-2.2	82	1+	33	7	0	0	39	62	3.11	1.56	1.48	10	5	T	0	10.1	WNW	--	---	--	5	7	19	7.1
Great Falls	3664	886.6	1013.7	60	39	49.5	-4.3	78	29	30	15	0	5	31	57	4.26	2.33	1.64	12	4	4.6	2	14.7	WSW	61	W	8	6	7	18	6.8
Havre CO	2488	924.5	1013.4	64	42	52.9	-2.8	80	19+	31	7	0	1	37	60	3.54	2.06	1.20	12	6	.0	0	8.9	---	42	NW	8	5	5	21	7.4
Helena	3893	872.[illegible]	1014.2	62	37	49.3	-3.0	80	29	29	7	0	6	32	57	1.02	-.58	.39	9	2	2.2	1	10.9	W	40	W	8	7	10	14	6.5
Kalispell	2965	- -	- - --	58	35	46.7	-5.7	76	20	27	7	0	10	--	--	1.23	-.40	.37	10	2	T	0	-- -	---	--	---	--	2	11	18	7.5
Miles City	2629	927.9	1011.5	69	44	56.1	1.0	89	1	34	7	0	0	42	--	5.33	3.62	2.39	11	4	.0	0	9.9	NW	*46	NW	8	6	7	18	6.9
Missoula	3200	901.8	1016.6	60	36	47.7	-5.9	81	19	29	9	0	6	33	61	2.28	.64	.85	12	2	.5	T	7.2	W	35	SW	5	3	10	18	7.6
NEBRASKA																															
Grand Island	1841	946.8	1012.0	78	51	64.7	3.6	94	6	39	8	3	0	45	53	1.91	-1.96	.74	5	4	T	T	15.2	SSE	--	---	--	11	7	13	5.5
Lincoln CO	1184	-- - -	- ---	79	54	66.5	4.0	95	6	39	8	2	0	--	--	1.23	-1.87	.53	6	6	.0	0	9.8	---	46	W	28	9	8	14	6.0
Norfolk	1544	957.3	1012.4	79	50	64.5	5.4	95	2	32	8	3	1	47	54	2.32	-1.31	1.64	6	5	.0	0	----	---	--	---	--	11	11	9	5.2
North Omaha	1323	965.5	- ----	77	53	64.8	---	94	6	39	8	1	0	--	-	.98	----	.47	7	5	.0	0	----	---	--	---	--	--	--	--	---
North Platte	2779	913.6	1010.9	76	48	61.6	2.7	89	6	35	10	0	0	44	57	4.70	2.03	1.69	7	7	T	0	14.7	SSE	70	S	2	11	8	12	5.6
Omaha	978	973.6	1013.1	79	54	66.4	3.7	92	6	40	8	2	0	49	56	1.21	-1.54	.46	6	4	.0	0	12.1	SE	36	SW	6+	9	10	12	5.7
Scottsbluff	3950	876.1	1010.5	73	44	58.7	2.5	88	13	34	10	0	0	39	55	4.16	1.52	2.33	9	4	T	T	13.2	ESE	--	---	--	12	11	8	5.1
Valentine CO	2581	919.7	- --	75	48	61.9	4.5	91	1	32	10	1	1	--	--	3.06	.40	1.96	8	4	.0	0	11.3	---	38	S	2	9	11	11	5.5
NEVADA																															
Elko	5075	843.9	1014.7	65	33	49.1	3.9	85	20	26	3	0	14	31	56	1.47	.52	.60	10	2	2.8	3	6.2	SW	*55	NNW	21	12	6	13	5.5
Ely	6257	807.0	1013.2	61	31	47.8	-3.9	78	21+	21	3+	0	18	23	43	1.74	.56	1.42	5	2	.7	T	11.6	--	47	E	30	12	5	14	5.4
Las Vegas	2162	944.1	1008.5	85	56	70.2	-3.9	99	21	42	3	14	0	23	20	.03	-.13	.03	1	0	.0	0	13.7	SW	*40	SW	14	21	6	4	2.7
Reno	4397	860.8	1014.3	71	36	53.4	-1.9	86	20	27	3	0	7	30	45	1.03	.55	.50	5	3	2.5	2	8.8	WNW	38	S	13	14	10	7	4.3
Winnemucca	4299	866.6	1013.9	69	35	51.9	-4.0	86	20	27	18	0	8	29	45	1.36	.52	.50	5	0	T	T	9.3	---	36	N	21	12	5	14	5.3
NEW HAMPSHIRE																															
Concord	[illegible]	1002.8	1013.7	74	44	59.2	4.4	89	29	29	18	0	3	46	63	2.84	-.20	1.54	8	6	.0	0	5.1	NW	30	W	16	7	12	12	5.9
Mt. Washington	6262	804.7	---	44	32	38.1	2.8	60	28	11	17	0	17	--	89	5.81	.49	1.54	17	2	8.6	3	26.2	W	%80	NW	19	2	8	21	7.8
NEW JERSEY																															
Atlantic City CO	8	1013.4	- ---	67	54	60.4	1.3	82	25	44	2	0	0	--	--	.62	-2.36	.52	8	3	.0	0	14.3	---	38	N	17	11	10	10	5.4

See footnotes at end of table

CLIMATOLOGICAL DATA

le 2—Continued

tate and station	Elevation (ground)	Pressure		Temperature								No. of days		Average dew point	Average relative humidity	Precipitation			No. of days		Snow, Sleet, Hail		Wind		Fastest mile			No. of days (sunrise to sunset)			Sky cover, tenths, sunrise to sunset	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 90° F or above	Min 32° F or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft	Mb	Mb	°F	°F	°F	°F	°F		°F				°F	%	In	In	In			In	In	M p h		M p h			0–3	4–7	8–10	0–10	%
EW JERSEY (Cont'd)																																
ark	11	1013.8	1015.0	7[illegible]	54	64.7	3.6	[illegible]	[illegible]	42	[illegible]	[illegible]	0	47	[illegible]	2.30	-1.43	0.94	[illegible]	[illegible]	0.0	0	[illegible]	SW	*36	WNW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
nton CO	56	1007.3	1014.2	7[illegible]	54	64.9	[illegible]	90	2[illegible]	44	19+	[illegible]	0			2.19	[illegible]	1.07	[illegible]	[illegible]	.0	0	[illegible]		27	NW	[illegible]	1[illegible]	[illegible]	11	[illegible]	[illegible]
EW MEXICO																																
uquerque	5310	846.6	100[illegible].4	77	51	63.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	.53	-.34	[illegible]	[illegible]	[illegible]	T	T	[illegible]	S	[illegible]	NW	[illegible]	1[illegible]	[illegible]	11	[illegible]	[illegible]
yton	19[illegible]	843.6	1011.0	7[illegible]	[illegible]	59.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			5.45	2.86	[illegible]	11	[illegible]	T	T						1[illegible]	[illegible]	[illegible]	5.1	
well	[illegible]612	890.3	100[illegible]	86	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	.41	-.87	[illegible]	6	[illegible]	T	T	[illegible]		[illegible]	W	[illegible]	1[illegible]	[illegible]	[illegible]	4.4	
EW YORK																																
bany	277	1008.5	1013.9	74	4[illegible]	61.2	3.7	8[illegible]	[illegible]	3[illegible]	10+	0	0	4[illegible]	[illegible]	1.51	1.29	.1[illegible]	[illegible]	[illegible]	.0	0	[illegible]	S	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	64
ghamton	1601	956.2	1015.0	69	47	57.9	3.0	85	1	31	10	0	1	43	[illegible]	2.84	[illegible]	1.20	1[illegible]	4	T	T	[illegible]	NW	4[illegible]	W	2[illegible]	4	11	1[illegible]	[illegible]	66
'falo	693	987.6	1015.7	70	48	59.1	4.0	88	27	35	17	0	0	47	[illegible]	1.65	-.82	.67	[illegible]	[illegible]	T	T	[illegible]	SW	46	WSW	2[illegible]	6	[illegible]	[illegible]	[illegible]	65
v York CO	10	1003.4	--	72	55	63.[illegible]	2.5	87	5	42	10	[illegible]	[illegible]			1.80	1.71	[illegible]	[illegible]	[illegible]	.0	0	[illegible] 4		46	NW	[illegible]	11	11	[illegible]	4.[illegible]	75
v York	19	1013.3	1015.2	75	55	65.2	3.9	[illegible]	5	43	10	1	0	4[illegible]	60	[illegible]	1.51	.84	[illegible]	4	.0	0	11.6	SSE	42	NW	[illegible]	10	1[illegible]	[illegible]	5.5	
hester	543	995.6	1014.9	71	48	59.6	3.2	[illegible]	2[illegible]+	37	[illegible]7	0	0	47	[illegible]	1.51	1.13	.43	[illegible]	7	T	0	11.9	SW	40	W	7	[illegible]	[illegible]	1[illegible]	6.1	68
nenectady	217	- -	-- ---	73	51	62.3	4.2	88	4	36	17+	0	0			2.72	-.26	1.64	7	2	.0	0						19	[illegible]	1[illegible]	3.3	
racuse	424	993.8	1015.6	72	49	60.4	2.7	8[illegible]	4	36	17+	0	0	47	6[illegible]	1.90	1.00	.79	[illegible]	7	.0	0	11.0	WNW	4[illegible]	NW	7	10	[illegible]	1[illegible]	5.[illegible]	64
NORTH CAROLINA																																
neville	2203	-- --	- ---	77	55	66.0	2.6	8[illegible]	2[illegible]+	41	[illegible]	[illegible]	0			4.86	1.83	1.[illegible]3	11	4	.0	0	7.4		51	SW	[illegible]	[illegible]	1[illegible]	1[illegible]	5.8	71
arlotte	727	989.0	1016.1	84	60	72.1	3.8	94	2[illegible]	49		[illegible]	0	57	64	5.29	2.31	[illegible]	[illegible]	6	T	T	[illegible]	SW	4[illegible]	SW	2[illegible]	[illegible]	[illegible]	11	6.1	[illegible]
eensboro	891	985.3	1016.9	80	57	68.6	2.3	90	7	46	3	[illegible]	0	[illegible]	[illegible]	2.[illegible]	[illegible]	1.3[illegible]	[illegible]	6	.0	0	6.2	SSW	26	SW	29	11	[illegible]	11	5.7	74
tteras CO	4	1015.9	1016.6	74	63	68.5	.3	85	2[illegible]	54	2+	[illegible]	0	6[illegible]	74	1.55	-2.38	.[illegible]2	7	7	.0	0	13.1	SSW	42	SW	[illegible]	[illegible]	[illegible]	[illegible]	6.3	65
leigh	433	1000.6	1016.4	82	58	69.7	2.4	92	[illegible]	44	[illegible]	3	0	55	66	1.95	-1.45	1.23	[illegible]	6	.0	0	[illegible].9	SW	24	N	2	[illegible]	1	9	5.6	6[illegible]
lmington	30	1015.3		82	61	71.7	1.7	91	26+	47	2	[illegible]	0			3.62	.19	1.15	11	[illegible]	.0	[illegible]	10.[illegible]		[illegible]4	NE	[illegible]	12	11		[illegible]	[illegible]
nston Salem	967	981.8	1016.7	80	58	69.1	2.4	92	27	49		[illegible]	0	[illegible]	[illegible]	5.05	1.12	2.[illegible]		4	T	[illegible]	9.8	WSW	*[illegible]	WSW	22	[illegible]	[illegible]	[illegible]	5.5	
NORTH DAKOTA																																
smarck	1650	950.6	1010.4	73	45	59.3	4.5	91	2	29	[illegible]	[illegible]	[illegible]	4[illegible]	[illegible]	3.21	1.27	1.40	[illegible]	2	.0	0	1[illegible].2	SSE	56	W	4	6	1[illegible]	13	6.5	59
vils Lake CO	1471	958.0	--	68	44	56.0	3.0	91	21	25	6	[illegible]	[illegible]			3.33	1.20	1.09	1[illegible]	3	T	T	11.2		42	SW	[illegible]	[illegible]	1[illegible]	16	[illegible]	51
rgo	895	978.7	1011.4	73	48	60.8	5.8	93	21	22	6	1	[illegible]	42	57	1.81	-.36	.[illegible]2	[illegible]	3	[illegible]	0	16.8	S	67	SE	3	6	1[illegible]	12	6.4	7[illegible]
lliston CO	1877	943.8	1011.0	67	45	55.8	[illegible]	85	1[illegible]+	34	[illegible]	[illegible]	[illegible]	4[illegible]	6[illegible]	1.34	-.32	.19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	SE	[illegible]	[illegible]	[illegible]	16	7.5	[illegible]
OHIO																																
ron	1210	978.7	1016.8	73	4[illegible]	60.8	2.3	84	27+	[illegible]	9		0	4[illegible]	[illegible]	[illegible]	[illegible]	1.26	7	[illegible]	.0	0	[illegible]	SW				[illegible]	9	14	6.0	
ncinnati Obs	761	- -	- - -	76	55	65.7	2.1	87	[illegible]	[illegible]	9	[illegible]	0			3.[illegible]7	.4[illegible]	1.06	1[illegible]	7	.0	0	5.[illegible]		41	SW	7	--				64
ncinnati	869	984.0	1015.9	76	54	65.0	2.5	[illegible]	[illegible]	38	9	0	0	50	63	1.26	.81	1.06	10	7	.0	0	[illegible]	SSW	*41	W	7	6	6	17	6.9	
eveland	787	988.3	1015.9	74	52	62.7	3.6	87	4	35	9	0	0	49	64	5.00	2.27	3.73	11	4	.0	0	9.7	S	43	SW	28	[illegible]	8	15	6.[illegible]	72
lumbus CO	724	------	- -	76	55	65.5	3.3	88	27	41	9	0	0			2.11	1.12	.58	10		.0	0										
lumbus	815	986.1	1016.0	76	52	63.8	3.0	87	1	38	9	0	0	51	66	3.56	.41	1.22	10	4	.0	0	8.5	SSW	47	SW	7	7	11	13	5.9	67
yton	1002	979.1	1015.9	75	54	64.2	3.2	85	1	37	9	0	0	50	63	2.22	1.32	.66	10	5	.0	0	11.2	S	47	SW	7	7	[illegible]	1[illegible]	6.5	7[illegible]
rtsmouth CO	715	991.6	- ---	78	52	65.0	2.2	89	1	38	9	0	0			3.83	.09	2.07	10	5	.0	0	4.7		%5[illegible]	W	28					
ndusky CO	603	993.5	------	72	54	63.1	3.8	89	27	42	18	0	0			3.02	.30	1.00	10	6	.0	0	6.8		30	NW	4	12	11	8	4.7	75
ledo	676	990.1	1015.6	74	50	61.9	[illegible]	83	1	30	9	0	1	46	67	1.38	[illegible]	.41	11	4	.0	0	11.9	SW	3[illegible]	SW	2[illegible]	4	7	15	5.9	72
ungstown	1178	974.0	1016.5	72	48	60.2	[illegible].9	86	27	34	9	0	0	47	65	3.33	-.76	1,01	7	5	.0	0	9.2	SW	*40	W	28	8	8	15	6.1	
OKLAHOMA																																
lahoma City	1280	968.8	1011.8	81	60	70.6	2.6	93	4+	54	29+	3	0	58	69	9.10	5.15	3.77	12	10	T	T	13.8	SSE	63	SW	26	10	7	14	5.7	59
lsa	672	988.2	1012.2	81	61	71.1	2.9	91	7	53	30	2	0	60	69	1.20	-.57	1.60	14	11	T	0	10.9	S	34	W	26	10	3	16	6.5	68
OREGON																																
toria	8	1020.7	1021.8	57	42	49.3	-4.2	66	18	35	[illegible]	0	0	44	80	1.62	-1.75	.34	16	0	T	0	7.3	NW				3	13	15	7.1	
rns CO	4140	872.7	1015.6	64	36	50.0	-4.1	82	20	25	14+	0	7	26	45	.40	-.35	.28	3	2	.3	T	-		-			11	7	13	5.3	
gene	361	1007.5	1021.2	65	41	52.7	-3.7	78	18+	32	31	0	1		-	.45	1.54	.25	9	0	.0	0	8.0		-	-		9	7	15	6.1	
acham	4050	- ----	--	52	33	42.3	-5.7	70	19+	26	9	0	18			1.57	-.80	.84	13	1	5.0	25	-		-	-	-	5	6	20	7.2	
dford	1312	971.2	1019.0	70	42	56.2	-2.5	88	19	32	13	0	1	37	58	.18	1.04	.09	6	0	.0	0	7.6	NNW	*31	NW	11	10	12	9	5.2	
ndleton	1492	963.1	1017.4	67	43	54.7	-5.1	82	1[illegible]	33	14	0	0	[illegible]	52	1.26	.29	.65	6	0	T	0	13.0	W	*41	W	2[illegible]	6	13	12	6.0	-
rtland	21	1015.2	1020.8	63	43	52.9	-4.7	77	16	36	1+	0	0	42	68	1.24	-.52	.71	15	0	T	0	6.7	WNW	30	NW	30	3	10	18	7.5	39
seburg	505	1001.7	1020.7	67	41	54.1	-	83	19	32	13	0	1	-		.46	1.27	.16	11	0	T	0	6.0		22	N	5	7	11	13	6.1	58
lem	195	1013.5	1020.9	66	40	53.1	-4.1	79	18	33	[illegible]	0	0	41	68	1.18	-.75	.84	7	1	.0	0	7.9	S				4	10	17	7.0	
exton Summit CO	3836	---	- ---	58	37	47.5	-3.0	74	19	26	13	0	9	-		.68	1.27	.26	9	0	2.9	T	-		-	-		12	7	12	5.4	
PENNSYLVANIA																																
lentown	376	1001.7	1015.8	75	50	62.7	2.2	88	29+	[illegible]	1[illegible]	0	0	49	63	3.11	-.86	1.96	8	4	.0	0	9.3	WSW				9	1[illegible]	11	5.6	
rrisburg	335	1002.0	1015.7	76	54	64.6	2.2	89	29	42	7	0	0	47	56	.96	2.74	.58	5	3	.0	0	7.6	W	41	W	29	7	11	13	5.8	71
iladelphia CO	26	- ---	----	76	57	66.5	2.8	91	29	48	1[illegible]+	1	0			1.57	2.01	.75	6													
iladelphia	10	1011.0	1015.4	77	55	66.1	3.0	92	29	45	18	[illegible]	0	50	60	.91	2.67	.50	6	4	.0	0	9.5	WSW	32	SW	2[illegible]	7	12	12	5.8	71
ttsburgh CO	749	----	- - -	76	54	64.7	2.1	89	1	40	9	0	0			1.71	1.78	.42	13		0	0										
ttsburgh	1151	985.9	1016.3	73	51	62.1	2.3	86	1	3[illegible]	[illegible]	0	0	49	61	2.59	1.18	1.43	11	3	0	0	10.3	WSW	*3[illegible]	WSW	22	7	12	12	6.[illegible]	56
ading CO	266	1003.5	1015.2	77	55	65.8	3.3	90	29	43	7	[illegible]	0			[illegible]	2.15	.88	7	4	.0	0	10.2		[illegible]	SW	2[illegible]	11	7	[illegible]	5.6	64
ranton	940	981.3	1015.5	73	49	61.0	1.6	86	4	35	10+	0	0			2.04	1.53	1.05	8	3	.0	0	7.6	-	3[illegible]	SW	[illegible]	10	9	12	5.7	60
lliamsport	527	996.6	----	77	49	63.0	2.8	87	24+	36	16+	0	0	--		[illegible].27	3.04	.54	10		.0	0						6	11	14	6.1	
RHODE ISLAND																																
ock Island	110	1010.0	1014.3	64	48	55.7	1.5	77	26	39	10+	0	0			.72	2.24	.27	5	4	.0	0						14	7	10	5.5	
ovidence	55	1008.3	1014.3	71	48	59.7	2.9	84	21	39	18+	0	0	48	67	2.37	-.65	.63	9	5	0	0	9.7	SSW	*24	SSE	2	10	13	8	5.2	72
SOUTH CAROLINA																																
arleston CO	9	-----	---	82	68	75.0	2.1	94	11	55	2	2	0		-	4.00	.61	1.79	8	10	.0	0	10.4		47	N	1[illegible]	7	14	10	5.8	73
arleston	41	1014.6	1016.5	85	63	73.8	2.4	96	11	52	2	5	0	63	74	1.84	1.92	1.27	6	10	.0	0	10.8	S				5	14	12	6.4	
lumbia	217	1007.3	1015.6	87	61	74.1	2.4	95	11+	42	3	12	0	59	66	3.00	.23	1.13	9	9	.0	0	[illegible].9	SW	*35	SW	29	9	14	8	5.4	77
lorence	146	1010.6	------	85	61	73.4	2.1	94	11	49	3	7	0			3.2[illegible]	-.55	1.34	9	11	.0	0						9	14	8	5.3	
reenville	1018	979.1	1015.9	82	61	71.4	2.9	91	27	54	9+	3	0	54	62	4.16	1.07	1.73	7	7	.0	0	10.7	SW	35	W	29	7	14	10	6.0	63
artanburg	801	--- --	--	82	61	71.6	2.8	90	28+	50	2	5	0			3.[illegible]7	.52	2.07	10	7	0	[illegible]	8.8		*46	WNW	14					
SOUTH DAKOTA																																
uron	1282	964.1	1010.8	77	50	63.4	5.4	92	2	32	8	2	1	45	55	3.21	.96	2.59	8	6	0	0	15.2	SSE	57	SW	2+	10	12	9	5.3	77
apid City	3165	897.7	1010.9	73	46	59.2	4.5	92	13	35	8	1	0	39	53	1.70	1.35	.89	9	3	0	0	13.3	NNW	50	NW	28	10	7	14	5.5	57
ioux Falls	1420	961.1	1012.1	78	49	63.4	5.3	90	20	30	8	1	1	42	51	2.16	1.22	2.13	4	2	.0	0	13.3	SSE	*39	NW	7	14	9	8	4.7	
TENNESSEE																																
ristol	1519	962.6	----	80	55	67.6	3.4	89	28	45	[illegible]+	0	0			2.14	1.30	.90	9	2	0	0						8	9	14	6.1	-
hattanooga	670	988.7	1015.9	83	59	70.9	3.2	90	26	46	9	4	0	59	73	6.40	2.24	2.17	10	10	0	0	5.6	S	36	SW	20	6	12	13	6.6	72
noxville	950	981.3	1016.3	82	59	70.4	3.0	91	26	48	[illegible]	1	0	55	63	3.51	-.07	1.08	8	5	0	0	7.7	NE	35	W	29	6	12	13	6.4	52
emphis CO	271	-	-	82	65	73.3	2.8	90	25+	57	31+	2	0			3.52	-.13	1.91	6		0	0										
emphis	263	999.9	1014.5	84	63	73.3	3.2	94	5	52	[illegible]	2	0	61	68	5.96	2.04	3.69	8	6	0	0	9.5	S	34	S	28	6	15	16	7.5	70
ashville	577	996.0	1015.7	82	60	71.2	3.0	90	26	48	9	1	0	59	71	2.92	-.86	.78	10	11	0	0	9.5	S	33	W	10	5	14	12	6.5	70
ak Ridge CO	905	983.5	----	81	56	68.8	2.2	90	26	45	2	1	0			4.58	.40	2.04	10	7	0	0	4.6		24	NW	19	6	12	13	6.3	
TEXAS																																
bilene	1759	949.2	1009.9	87	62	74.6	2.9	99	7	52	18	12	0	56	56	5.94	2.26	2.22	10	12	T	0	13.1	SSE	56	W	23	11	8	12	5.1	46
narillo	3590	886.6	1010.0	79	53	65.7	1.9	89	6+	43	4	0	0	44	54	2.70	[illegible]	1.24	10	9	0	0	13.8	S	45	W	1	12	5	14	5.5	72
ustin	615	990.5	1012.0	89	67	78.0	2.8	98	21	59	30	15	0	64	67	4.49	.12	1.35	9	10	T	0	11.3	S	40	NW	11+	8	15	8	5.7	65

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)
	Ft.	Mb	Mb.	°F	°F.	°F.	°F.	°F.		°F.		#		°F.	%	In.	In.	In.			In.	In.	M p. h.		M. p. h.			0–3	4–7	8–10	0–10
TEXAS (Cont'd)																															
Brownsville	16	1008.8	1011.4	89	74	81.4	2.5	94	21+	67	3+	11	0	71	76	0.01	-3.35	0.01	1	1	0.0	0	15.7	SE	33	SE	26	10	13	8	5.2
Corpus Christi	40	1010.8	1011.8	89	72	80.6	4.0	98	21	66	6	11	0	71	79	2.11	-1.30	2.01	4	2	.0	0	14.9	SE	38	S	26	6	14	11	5.9
Dallas	487	993.9	1012.3	88	66	77.1	3.4	96	24	56	29	12	0	63	65	4.14	-.83	1.84	11	9	T	0	12.8	SE	37	S	25	5	18	8	5.8
Del Rio	1091	976.6	1010.0	92	68	79.6	2.2	105	24	59	19	19	0	61	56	2.55	.08	1.18	7	7	.0	0	12.0	---	40	W	11	12	7	12	5.2
El Paso	3920	883.8	1009.3	84	60	71.6	.0	92	30	48	3+	3	0	32	26	.26	-.15	.26	1	3	T	T	13.8	WSW	49	W	25	17	7	7	4.0
Fort Worth	544	99[illegible].9	1012.3	87	66	76.5	3.2	95	14	57	29	11	0	62	65	6.58	1.66	2.80	11	10	T	T	11.4	S	*55	SE	15	6	18	7	5.7
Galveston CO	7	----	------	82	74	77.7	2.0	86	1	64	18	0	0	--	--	3.73	.53	2.64	8	--	.0	0	13.1	---	36	S	18	--	--	--	---
Galveston	5	1011.5	1013.9	83	73	77.9	2.0	86	1+	65	18	0	0	71	81	2.41	-1.08	1.85	5	5	.0	0	13.5	S	--	---	--	9	12	10	5.6
Houston CO	41	1008.1	- - -	86	70	78.2	2.3	95	24	64	29	5	0	-	--	2.79	-2.05	.91	8	9	.0	0	10.6	---	41	SE	18	6	14	11	6.3
Houston	50	1010.5	1013.1	87	67	77.0	2.3	95	24	59	29	7	0	66	74	3.54	-1.37	1.72	6	8	T	0	13.3	SSE	--	---	--	3	14	14	6.6
Laredo	500	994.9	1009.7	96	72	83.9	2.7	105	24+	63	19	27	0	65	59	1.84	-1.34	.68	7	6	T	T	13.1	SE	*35	SSE	9	10	9	12	5.5
Lubbock	3243	900.1	1009.7	82	56	68.9	1.1	97	31	45	4	6	0	50	58	2.45	-.91	.97	9	10	T	T	13.7	S	*46	SSW	22	11	8	12	5.2
Midland	2854	912.6	1009.7	86	60	73.4	.1	97	25	51	12	11	0	46	45	2.06	-.01	.98	7	9	.0	0	10.7	SSE	*35	WNW	9	13	6	12	4.7
Port Arthur	16	1012.5	1013.9	86	68	77.2	2.8	92	22	60	30	2	0	68	78	2.77	-1.63	.85	6	7	.0	0	11.5	S	46	SE	26	3	15	13	6.2
San Angelo	1903	944.5	1010.2	89	63	75.8	2.2	100	7+	51	12	14	0	55	54	2.84	-.12	2.08	7	11	T	T	11.4	S	*48	SSE	2	11	12	8	4.8
San Antonio	792	986.8	1011.5	90	68	78.9	2.9	101	24	61	30	18	0	62	63	4.44	.92	2.14	8	9	T	0	9.8	SSE	42	NE	17	9	13	9	5.7
Victoria	110	1007.8	1012.2	89	70	79.3	1.9	95	25	62	30	13	0	67	69	2.15	-1.87	1.12	6	5	.0	0	11.7	---	%44	NW	29	8	14	9	5.7
Waco	500	993.6	1011.8	87	65	76.2	1.7	93	24	60	12	10	0	64	69	7.61	3.46	2.30	10	10	T	0	13.9	S	--	---	--	6	15	10	6.0
Wichita Falls	1027	974.6	1010.6	86	63	74.5	4.0	99	7	55	29	13	0	58	61	6.15	2.29	3.01	11	9	.0	0	12.4	SE	*38	SE	25	11	11	9	5.0
UTAH																															
Milford	5028	841.5	1011.9	72	38	54.9	-1.9	87	21	24	2	0	5	--	--	.29	-.45	.14	5	3	1.3	1	----	---	--	---	--	12	9	10	5.2
Salt Lake City	4220	864.5	1011.3	71	43	56.8	-2.1	86	30	30	16	0	2	34	47	1.35	-.21	.61	11	5	2.9	T	9.9	SSE	47	SE	14	9	11	11	5.6
VERMONT																															
Burlington	331	998.7	1013.2	71	50	60.4	5.0	85	22	36	20	0	0	47	63	4.25	1.36	2.26	12	6	T	0	10.4	S	35	S	28	4	12	15	6.7
VIRGINIA																															
Lynchburg	947	982.9	- - - -	78	56	67.0	2.0	88	5	43	18	0	0	--	--	3.66	.57	1.13	10	5	T	T	7.8	---	34	N	1+	10	11	10	5.4
Norfolk	26	1015.1	1016.4	77	58	67.7	1.8	92	29	45	18+	1	0	57	73	1.58	-1.87	.55	7	4	.0	0	8.9	NE	30	S	29	8	14	9	5.6
Richmond	162	1010.3	1016.5	79	55	67.2	1.4	91	29+	39	18	5	0	55	67	1.79	-1.85	.88	8	3	.0	0	7.7	SW	27	NE	1	9	15	7	5.1
Roanoke	1174	974.1	1016.5	80	56	67.7	3.0	90	28+	44	18+	3	0	51	62	3.12	-.50	1.31	7	6	.0	0	6.5	SE	--	---	--	7	14	10	5.8
WASHINGTON																															
Olympia	190	1012.5	1020.2	62	40	51.0	-3.1	73	18	31	6	0	1	38	66	1.35	-.31	.39	14	0	.0	0	7.9	SSW	*24	WSW	8+	3	6	22	7.8
Seattle CO	14	- --	---- -	60	46	53.1	-4.2	72	18	41	13+	0	0	--	-	1.54	-.07	.58	13	0	T	0	9.2	---	29	SW	11+	2	11	18	7.7
Seattle	14	1019.3	1020.3	-	--	----	---	--	--	-	--	--	--	41	67	----	----	----	--	-	---	-	8.0	SSE	--	---	--	--	--	--	---
Seattle Tacoma	379	1006.1	1020.4	59	42	50.7	-4.4	70	18	38	4+	0	0	41	72	1.95	.31	.70	13	0	T	0	11.0	SW	*35	WSW	26	2	8	21	8.0
Spokane	2357	947.2	1016.5	60	38	49.4	-5.3	76	19	29	9	0	2	34	59	.67	-.37	.23	10	2	T	0	8.6	SW	27	SE	30	5	6	20	7.2
Stampede Pass CO	3958	880.5	1020.7	43	30	36.3	-8.2	58	19	25	8+	0	24	--	—	5.42	.68	1.76	20	0	24.1	138	----	---	--	---	--	1	7	23	8.5
Tatoosh CO	101	1017.3	1020.8	51	44	47.7	-3.2	58	14	41	6+	0	0	43	85	2.36	-.95	.97	15	0	.0	0	11.1	W	37	W	7	5	10	16	7.3
Walla Walla CO	949	981.0	1016.9	66	46	55.7	-5.5	83	19	38	14	0	0	--	--	1.20	-.06	.65	7	0	T	T	6.5	---	25	W	26	8	12	11	5.7
Yakima	1061	978.3	1017.5	68	41	54.0	-5.1	85	19	30	14	0	2	33	50	.41	-.06	.18	6	0	.0	0	7.4	WNW	--	---	--	5	12	14	6.7
WEST VIRGINIA																															
Charleston	950	980.9	1016.1	78	53	65.6	1.9	90	28	37	18	1	0	51	65	4.51	.73	1.56	13	5	.0	0	7.7	SW	*27	WNW	5	6	10	15	6.0
Elkins	1970	------	------	74	46	60.0	1.8	87	28+	29	18	0	1	49	--	3.49	-.76	1.70	13	5	.0	0	6.5	NNW	*24	NW	5	6	9	16	6.5
Huntington CO	565	-----	---- -	80	55	67.2	1.5	90	28+	42	9	2	0	--	-	3.21	-.61	1.43	10	--	.0	0	----	---	--	---	--	--	--	--	---
Parkersburg CO	615	--	--- -	77	54	65.5	2.0	89	27+	41	18	0	0	--	--	2.35	-1.15	1.09	10	4	.0	0	5.5	---	25	NW	7	11	7	13	5.5
WISCONSIN																															
Green Bay	689	991.5	1014.4	69	45	56.8	2.4	84	3	30	17	0	1	45	66	2.39	-.14	.76	15	7	T	0	10.1	SW	54	SW	29	9	13	9	5.1
La Crosse	652	989.2	1013.6	74	51	62.3	3.3	88	23	35	8	0	0	48	60	3.97	.70	1.24	11	7	T	0	10.5	SE	*30	WNW	7+	13	8	10	4.9
Madison	857	979.7	1014.7	73	48	60.2	2.7	88	23	34	8	0	0	47	63	2.10	-1.17	.63	8	6	T	T	10.6	S	49	SW	27	12	8	11	5.2
Milwaukee	675	990.5	1015.5	69	48	58.2	3.9	87	3	36	8+	0	0	45	66	4.29	1.31	1.90	12	5	.0	0	11.9	NNE	42	SW	28	12	7	12	5.4
WYOMING																															
Casper	5322	834.4	1009.4	69	41	54.8	1.7	83	14+	34	3	0	0	29	45	.73	-1.59	.31	10	4	T	T	14.2	SW	*44	SW	31	8	11	12	5.9
Cheyenne	6131	809.3	1010.6	67	40	53.2	3.1	79	30	30	17	0	2	31	50	2.27	-.19	.80	12	8	.1	T	14.4	SSE	61	NW	27	8	14	9	5.5
Lander	5563	832.4	1010.6	69	40	54.5	2.1	81	20+	32	16+	0	2	28	41	1.18	-1.39	1.02	4	2	T	0	8.9	---	47	S	14	7	16	8	5.3
Sheridan	3942	881.5	1012.1	66	41	53.8	.9	84	1	31	7	0	1	38	59	4.17	-1.53	1.15	14	4	T	T	10.3	WNW	46	NW	2	6	10	15	6.6
PACIFIC AREA																															
Canton Island	9	1009.5	1010.3	87	78	82.2	-2.0	88	1+	73	24	0	0	74	78	1.80	-1.06	.75	9	0	.0	0	----	---	--	---	--	9	18	4	5.0
Hilo	31	1016.9	1018.5	78	65	71.5	-1.6	80	5+	62	6	0	0	65	83	10.69	1.69	1.29	30	0	.0	0	6.8	WSW	*22	E	14	0	7	24	8.8
Honolulu	7	1018.0	1019.3	80	70	74.9	-1.2	82	16+	68	3+	0	0	63	67	.76	.36	.41	7	0	.0	0	14.0	ENE	34	NE	25	2	12	17	7.2
Koror CO	94	1005.4	1009.1	87	75	81.3	.0	90	15+	73	3+	2	0	76	86	13.29	-.86	2.80	26	0	.0	0	----	---	--	---	—	0	7	24	8.5
Lihue	115	1013.9	1019.1	80	69	74.7	.6	83	28	65	27	0	0	65	74	.78	-1.73	.31	17	1	.0	0	15.3	NE	26	NE	1+	0	10	21	8.2
Majuro	10	1009.1	1009.4	85	76	80.3	---	87	22+	71	13	0	0	76	87	14.52	----	3.31	28	1	.0	0	----	---	--	---	--	0	7	24	8.7
Ponape CO	112	1004.7	1010.2	85	72	78.8	-2.7	90	26	70	23+	1	0	75	89	26.15	6.49	4.09	30	2	.0	0	----	---	--	---	--	0	3	28	9.3
Truk (Moen Island)	8	1009.5	1009.9	85	76	80.3	-.6	87	25+	74	1	0	0	77	87	23.57	10.67	4.45	29	2	.0	0	----	---	—	---	--	0	4	27	9.3
Wake Island	11	1015.6	1015.9	83	75	79.0	-.4	86	23	71	5	0	0	71	78	1.19	-1.12	.30	16	0	.0	0	19.0	E	--	---	--	14	12	5	4.6
Yap CO	53	1007.5	1009.4	87	76	81.6	-.7	90	8+	73	20+	3	0	76	83	12.29	3.14	2.91	23	1	.0	0	----	---	--	—	--	0	7	24	8.9
ALASKA																															
Anchorage	92	1004.1	1009.1	52	36	43.9	-1.8	57	7+	28	2	0	7	30	57	.02	-.49	.02	1	0	.0	6	9.9	S	*23	SSW	19+	2	8	21	8.1
Annette	110	1013.9	1017.9	51	39	44.8	-4.2	66	23	34	3+	0	0	39	82	11.78	7.29	3.82	23	0	T	0	12.5	SSE	*42	SSE	16	5	3	23	7.6
Barrow	22	1014.6	1015.2	21	11	15.9	-2.9	31	23	-6	4	0	31	13	84	.01	-.12	.01	1	0	.1	13	11.9	NE	30	NE	24	3	6	22	8.0
Bethel	21	1001.4	1002.9	47	32	39.4	-.6	54	18+	22	2	0	18	34	80	.76	-.13	.16	14	0	.1	12	10.6	E	*23	E	4+	0	8	23	8.4
Cordova	40	1009.5	1011.2	48	34	41.1	-1.8	52	23+	27	1+	0	14	35	77	3.19	-3.25	.70	18	0	T	4	8.2	E	*28	E	24	1	1	29	9.4
Fairbanks	436	989.2	1006.2	57	35	46.0	-1.4	69	24	27	3	0	11	33	60	1.67	.93	.88	8	0	T	0	6.7	SW	*31	WNW	19	3	11	17	7.5
Juneau	15	1014.2	1015.0	49	36	42.9	-4.1	66	23	28	12	0	6	36	78	4.89	1.70	.70	23	0	T	0	11.2	ESE	37	SE	16	3	2	26	8.7
Kotzebue	10	1006.8	1007.5	37	22	29.3	-.3	52	24	-1	1+	0	26	25	85	.47	.14	.22	7	0	.4	14	8.8	WSW	*27	WSW	18	4	8	19	7.6
McGrath	334	992.6	1005.1	54	32	43.1	-.1	63	29	21	2	0	16	33	66	.37	-.57	.25	5	0	T	27	5.2	S	*17	ESE	13+	2	9	20	7.7
Nome	13	1004.4	1005.0	42	30	36.0	2.3	59	29	18	10	0	20	31	79	1.01	.42	.31	11	0	.8	11	9.1	N	35	NE	29	4	6	21	7.7
Northway	1713	944.8	1008.2	52	28	40.2	-4.6	68	23	19	1	0	24	30	66	.58	-.14	.31	8	0	.1	3	7.2	NW	*23	SW	16	1	9	21	8.1
St. Paul Island	22	1000.0	1001.3	35	30	32.5	-2.7	41	29+	25	9	0	28	31	92	.83	-.35	.19	16	0	6.7	10	----	---	--	---	--	0	3	28	9.4
Yakutat	28	1012.2	1013.3	45	33	39.4	-3.9	54	23	27	1+	0	12	37	88	10.88	2.96	3.15	26	0	T	46	10.2	ESE	*30	SE	24	0	4	27	9.3
WEST INDIES																															
San Juan CO	47	-	--	84	74	79.3	.6	93	2	72	25	6	0	--	--	8.75	2.24	2.25	17	-	.0	0	----	---	--	---	--	--	--	--	---
San Juan, P.R	9	1013.2	1015.4	85	74	79.4	.3	91	19+	70	24	4	0	71	80	11.81	4.32	2.61	19	7	.0	0	9.4	ENE	26	E	21	5	11	15	6.7

Data from airport unless otherwise specified. CO indicates data from city office.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.

# Maximum 70°F or above for Alaskan stations

+ And also on a later date or dates

% Peak gust.

a Maximum hourly average

HEATING DEGREE DAYS

le 3

(Base 65°F.)

MAY 1955

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
LABAMA			
mingham	2	2686	2780
ile	0	1647	1612
tgomery	0	2218	2137
RIZONA			
gstaff	517	7374	7313
enix (CO)	3	1353	1492
enix	3	1436	1698
scott	182	4531	4516
son	13	1735	1776
slow	142	4770	4694
a	2	1049	951
RKANSAS			
Smith	0	2996	3188
tle Rock	0	2846	2982
arkana	0	2416	2362
ALIFORNIA			
ersfield	49	2442	2115
hop	223	4823	4184
e Canyon	425	5874	5517
bank	115	1679	1786
eka (CO)	455	4717	4350
sno	87	3039	2532
Angeles (CO)	88	1247	1432
Angeles	124	1567	1959
Shasta (CO)	359	6231	5739
land	232	3283	3044
Bluff	53	3028	2546
ramento (CO)	79	2942	2595
ramento	82	3124	2815
dberg (CO)	364	4533	4187
Diego	103	1326	1531
Francisco (CO)	259	3154	2889
Francisco	236	3473	3257
Jose	149	2714	2364
ta Maria	316	3169	2782
OLORADO			
mosa	484	8330	8456
orado Springs	270	6087	6179
ver	203	5762	6067
nd Junction	163	6145	5773
blo	139	5297	5682
ONNECTICUT			
dgeport	117	7051	5858
tford	129	5793	6108
Haven	180	5584	5974
ELAWARE			
mington	83	4766	4904
IST. OF COLUMBIA			
shington (CO)	34	4047	4258
shington	47	4132	4333
LORIDA			
lachicola (CO)	0	1316	1307
tona Beach	0	1026	868
t Myers	0	450	405
ksonville (CO)	0	1677	1113
ksonville	0	1339	1243
West (CO)	0	77	77
mi (CO)	0	314	173
mi	0	199	178
mi Beach	0	118	123
lando	0	783	650
sacola (CO)	0	1470	1435
llahassee	0	1628	1519
pa	0	736	674
st Palm Beach	0	272	248
GEORGIA			
ens	1	2812	2800
lanta	0	2751	2826
gusta	1	2537	2138
lumbus	0	2357	2396
con	0	2158	2049
ne	5	3237	3138
vannah	0	2020	1710
IDAHO			
ise	353	6518	5798
wiston	352	6040	5415
catello	403	7798	6840
ILLINOIS			
iro (CO)	2	3533	3756
icago (CO)	139	5396	
icago	112	5496	6252
icago University	167	5638	
line	100	5948	6319
oria	90	5509	6046
ringfield	75	5073	5661
INDIANA			
ansville	38	4266	4354
. Wayne	131	5660	6234
dianapolis	101	5219	5581
uth Bend	184	6024	6462
IOWA			
rlington	106	5668	6067
s Moines	81	5966	6401
buque	160	6790	7195
okuk (CO)	64		
IOWA (Cont'd.)			
Sioux City	61	6238	6958
KANSAS			
Concordia (CO)	26	4895	5303
Dodge City	54	4586	5043
Goodland	144	5885	6309
Topeka (CO)	36	4566	4906
Topeka	45	4695	5194
Wichita	14	4203	4564
KENTUCKY			
Lexington	58	4474	4964
Louisville	32	4148	4434
Pikeville (CO)	10	3743	
LOUISIANA			
Baton Rouge	0	1559	1595
Lake Charles	0	1380	1543
New Orleans (CO)	0	1125	1175
New Orleans	0	1296	1317
Shreveport	0	2042	2117
MAINE			
Caribou	468	9423	9972
Portland	289	7093	7564
MARYLAND			
Baltimore (CO)	38	4032	4203
Baltimore	76	4673	4782
Frederick	101	4992	4854
MASSACHUSETTS			
Blue Hill Obs.	210	6360	
Boston	133	5406	5749
Nantucket	358	5684	5963
Pittsfield	240	7232	7589
MICHIGAN			
Alpena (CO)	321	7407	7938
Detroit	154	5808	6344
Detroit (Willow Run)	139	5851	6414
East Lansing (CO)	167	6102	
Escanaba (CO)	349	7755	8491
Grand Rapids (CO)	161	5893	6416
Grand Rapids	197	6346	6996
Marquette (CO)	351	7793	8340
Muskegon	236	6389	6973
S. Ste. Marie	370	8589	9251
MINNESOTA			
Duluth (CO)	416	9176	9374
Duluth	368	9280	9759
Internat. Falls	343	10074	10429
Minneapolis	124	7410	7773
Rochester	175	7592	8003
St. Cloud	192	8409	8787
MISSISSIPPI			
Jackson	0	2231	2202
Meridian	0	3371	2333
Vicksburg (CO)	0	1979	2000
MISSOURI			
Columbia	54	4521	5099
Kansas City	36	4430	4880
St. Joseph	50	5051	5322
St. Louis (CO)	20	4109	4462
St. Louis	28	4282	4688
Springfield	28	4254	4677
MONTANA			
Billings	320	6803	6987
Glasgow (CO)	334	8034	8577
Great Falls	475	7401	7389
Havre (CO)	370	7691	8088
Helena	480	8351	8053
Kalispell	559	8355	7840
Miles City	276	7149	7744
Missoula	528	8147	7697
NEBRASKA			
Grand Island	81	5916	6272
Lincoln (CO)	45	5429	5833
Norfolk	89	6224	7005
North Platte	140	6472	6487
Omaha	55	5582	6128
Scottsbluff	199	6578	6760
Valentine (CO)	144	6553	6992
NEVADA			
Elko	485	8055	7152
Ely	525	8106	7243
Las Vegas	40	2809	2425
Reno	355	6505	5871
Tonopah	329	6377	5722
Winnemucca	402	7303	6258
NEW HAMPSHIRE			
Concord	216	6998	7530
Mt. Washington Obs.	826	13120	
NEW JERSEY			
Atlantic City (CO)	160	4634	4717
Newark	79	4864	5241
Trenton (CO)	79	4820	5057
NEW MEXICO			
Albuquerque	90	4247	4389
NEW MEXICO (Cont'd)			
Clayton	177	4926	5114
Roswell	13	3394	3424
NEW YORK			
Albany	155	6517	6912
Binghamton	242	7050	7449
Buffalo	206	6187	6766
New York (CO)	100	4824	5032
La Guardia Field	68	8849	4979
Rochester	205	6398	6809
Schenectady	127	6226	
Syracuse	193	6392	6483
NORTH CAROLINA			
Asheville (CO)	32	4058	4067
Asheville	55	4386	
Charlotte	0	3081	3205
Greensboro	20	3785	3810
Hatteras (CO)	27	2523	2392
Raleigh	17	3489	3369
Wilmington	9	2532	2323
Winston-Salem	21	3663	3721
NORTH DAKOTA			
Bismarck	211	8105	8917
Devils Lake (CO)	303	9192	9803
Fargo	195	8681	9173
Grand Forks	248	9359	
Pembina	228	9117	
Williston (CO)	297	8219	8930
OHIO			
Akron	171	5935	6153
Cincinnati (CO)	36	4103	4532
Cincinnati	73	4759	5172
Cleveland	126	5384	5960
Columbus	105	5176	5584
Dayton	91	5218	5558
Sandusky (CO)	129	5302	5818
Toledo	145	5753	6334
Youngstown	190	6007	6119
OKLAHOMA			
Oklahoma City	5	3387	3644
Tulsa	0	3186	3584
OREGON			
Astoria	482	5262	4773
Burns (CO)	457	7522	6759
Eugene	375	5147	4654
Meacham	698	8265	7561
Medford	271	5011	4478
Pendleton	314	5518	5153
Portland (CO)	316	4446	4073
Portland	368	4922	4539
Roseburg	332	4956	
Salem	367	5129	4483
Sexton Summit (CO)	536	6785	5947
PENNSYLVANIA			
Allentown	118	5564	5855
Harrisburg	80	5019	5244
Philadelphia (CO)	50	4354	4523
Philadelphia	61	4479	4866
Pittsburgh (CO)	88	4717	5035
Pittsburgh	140	5454	5869
Reading (CO)	62	4773	5049
Scranton (CO)	170	5797	6012
Williamsport	115	5592	5873
RHODE ISLAND			
Block Island	280	5450	5747
Providence	185	5652	6067
SOUTH CAROLINA			
Charleston (CO)	0	1822	1769
Charleston	0	2086	1973
Columbia	1	2604	2435
Florence	0	2476	2507
Greenville	9	3101	3060
Spartanburg	5	3087	3044
SOUTH DAKOTA			
Huron	117	7249	7822
Pierre	125	6831	
Rapid City	203	6656	7387
Sioux Falls	112	7097	7768
TENNESSEE			
Bristol	19	4165	4148
Chattanooga	6	3469	3384
Knoxville	[illegible]	3521	3590
Memphis	0	3028	3137
Nashville	5	6552	3513
TEXAS			
Abilene	0	2265	2657
Amarillo	66	3731	4345
Austin	0	1818	1713
Brownsville	0	392	617
Corpus Christi	0	722	1011
Dallas	0	2146	2272
Del Rio	0	1338	1407
El Paso	2	2523	2641
Ft. Worth	0	2193	2361
Galveston (CO)	0	990	1211
Galveston	0	1036	1233
Houston (CO)	0	1134	1276
TEXAS (Cont'd.)			
Houston	0	1230	1388
Laredo	0	744	781
Lubbock	31	3411	3587
Midland	3	2472	
Port Arthur	0	1339	1517
San Angelo	0	2065	2107
San Antonio	0	1226	1579
Victoria	0	1777	1126
Waco	0	1834	2025
Wichita Falls	0	2565	3025
UTAH			
Milford	307	6839	6368
Salt Lake City	257	6386	5785
VERMONT			
Burlington	187	7456	7793
VIRGINIA			
Lynchburg	50	5106	4148
Norfolk	58	3417	3454
Richmond	67	3872	3955
Roanoke	41	4152	4152
WASHINGTON			
Olympia	426	5757	5318
Seattle (CO)	363	4665	4331
Seattle-Tacoma	438	5493	5120
Spokane	478	7135	6706
Stampede Pass (CO)	883	9653	8711
Tatoosh Island (CO)	530	5580	5394
Walla Walla (CO)	281	5065	4810
Yakima	332	6223	5792
WEST VIRGINIA			
Charleston	59	4435	4409
Elkins	179	5708	5720
Huntington (CO)	38	4142	4068
Parkersburg (CO)	63	4611	4737
WISCONSIN			
Green Bay	267	7734	8152
La Crosse	133	7048	7576
Madison (CO)	159	6741	7221
Madison	177	6904	7335
Milwaukee	229	6511	7096
WYOMING			
Casper	307	7244	7492
Cheyenne	359	6964	7389
Lander	319	7569	8140
Sheridan	342	7358	7742
ALASKA			
Anchorage	647	10465	10450
Annette	617	6846	6775
Barrow	1513	19155	19061
Bethel	1784	12830	12508
Cordova	735	9080	9144
Fairbanks	583	14288	13965
Juneau	681	8314	8546
Kotzebue	1098	16189	15500
McGrath	671	14321	14107
Nome	894	14109	13510
Northway	762	15360	15194
St. Paul	999	10582	10134
Yakutat	788	8905	8889

ta from airport unless otherwise specified.
indicates data from city office.

Table 4

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Greensburg (12 miles south of), Kiowa County, Kans.	1	Late afternoon			0	0	$1,500	$ 0	Tornado (suspected) and rain	Several farm buildings demolished or damaged.
	1									Minor storms also reported in Northampton County, N.C.; and in Parnell, Shamrock, and Tulia areas, Tex.
St. Nazianz, Manitowac County, and Sheboygan, Sheboygan County, Wis.	2	2:30 a.m.							Electrical and rain	$1,000 church steeple destroyed by fire after being struck by lightning. Fire started by lightning destroyed barn 4 miles north of Reedsville, killing livestock and burning stored grain. At Sheboygan, grocery stocks damaged by fire after transformer struck by lightning. Storm moved northward.
Colorado, extreme northeastern portion	2	Midafternoon	50	*40	1		3,000	10,000	Wind and dust	Dust-laden winds reduced visibility to zero at many points, resulting in several automobile accidents and closing of some highways and roads to traffic. Principal damages to crops and soils. 1 person killed in traffic accident, resulting from storm. Storm moved eastward.
Sheridan and Decatur Counties, Kans.	2	5 p.m.	30				25,000	110,000	Hail, wind, and rain	Severe hail and wind damage in western Sheridan and southern Decatur Counties. Storm moved northeastward.
Grigston to Dighton (near), Scott and Lane Counties, Kans.	2	6:15 p.m.			0	0			Tornado (suspected), wind, hail, and rain	Damage area from Grigston to 3 miles west of Dighton. Several farm buildings demolished, car hurled off road, and powerlines torn down.
Lexington (3 miles northeast of), Dawson County, Nebr.	2	7:30 p.m.	Short	50	0	0	Few thousand	0	Tornado	4 buildings between house and barn destroyed. House and barn undamaged.
Alma, Nebr.	2	8:45 p.m.	Short	440		1	8,000		Wind	Several buildings damaged.
Stuart, Nebr.	2	10 p.m.	10-12	*1-2		1	2,500		Wind	Standpipe torn off and struck boy. Several buildings damaged.
Charles City (4 miles northeast of), Iowa	2						10,000		Electrical	Barn burned.
Broken Bow (near), Custer County, Nebr.	2	Night	Short	Wide	0	0	Several thousands	0	Tornado (suspected)	Several farm buildings damaged.
South Dakota, eastern half	2	Night (p.m.)							Wind, rain, hail, and electrical	Widely scattered and spotted damage. Most damage in scattered areas along line from Gregory County northeastward to Beadle County. Damage confined mainly to small building and structures.
	2									Minor storms also reported in Meade County, Kans.; and near Sutherland, Wood River, Hildreth, and Minden, Nebr.
Range, Texas County, Okla.	2-3	11:22 p.m.-12:35 a.m.					Minor	Minor	Hail	Some hailstones 1 inch in diameter. Storm moved eastward.
Caledonia, Houston County, Minn.	3	4:15 p.m.	1	440			15,000		Wind, rain, hail, and electrical	3 barns, a silo, and metal corncrib demolished; farm machinery wrecked or damaged; power and communication lines downed; trees uprotted; other farm buildings damaged. Storm moved northeastward.
Iowa, eastern portion	3	Late afternoon				2	300,000		Wind, rain, and electrical	Buildings and utilities damaged. Area of greatest damage in Delaware County. Storm moved northeastward.
Viroqua and vicinity, Vernon County, Wis.	3	5:30 p.m.	20	*5	0	2	500,000	0	Tornado (suspected), wind, rain, hail, and electrical	20 or more barns completely destroyed or badly damaged. Over 50 tobacco-drying sheds and many other small farm buildings badly damaged. In Viroqua roof blown off new home for the aged. Homes and cars damaged by falling branches. Hundreds of TV aerials blown down. Utility lines out in many parts of city. Lineman on utility pole struck by lightning, injured only. Storm moved northeastward.
Oneida and Lincoln Counties, Wis.	3	6 p.m.	8	*1	0	3	20,000		Tornado (suspected), wind, rain, and hail	At Irma 2 barns destroyed, trapping and injuring 2 persons and some livestock. Wind and hail did miscellaneous damage to other farm buildings. Uprooted trees and falling branches damaged utility lines. Hail size of "golf balls" fell at Monico. Near Rhinelander hail size of "walnuts" fell; girl injured by hail and wind.
Clifton, Monroe County, Wis.	3	6:30 p.m.							Wind, rain, hail, and electrical	Wind blew down 2 barns, silo, and several other farm buildings; utility lines and trees suffered moderate to heavy damage. Storm moved eastward.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
tigo, Lan-lade County, is.	3	7 p.m.	7		0	0	$15,000		Tornado (suspected) wind, rain, hail, and electrical	2 barns destroyed, several more damaged; 250-foot radio tower valued at $5,000 blown down. Falling trees and branches caused damage to homes and utility lines. Over 100 TV aerials damaged. Storm moved northeastward.
peka, Shawnee ounty, Kans.	3	7:20 p.m.			0	0	0	$0	Tornadoes (suspected) and electrical	3 separate small funnels seen to develop and dissipate within a 10-minute period; moved northeastward.
on River, ich.	3	8:40 p.m.					5,000	1,000	Hail and rain	Hailstones about an inch in diameter damaged greenhouse, wrecked many neon signs, and cracked a number of windows.
rth Dakota, ntire State	3-4						125,000	100,000	Wind and dust	Wind- and duststorms from May 3 to 15 were worst duststorms since the 1930's. Visibility cut to near zero. Storm on 3d and 4th severe; moved eastward.
athon (near), rewster ounty, Tex.	4						Slight	Slight	Hail	Hail reported banked 4 feet deep along Highway #90.
	4									Minor storm also reported near Hamburg, Iowa.
tchinson, eno County, ans.	5	4:15 p.m.			0	0	0	0	Tornado (suspected) and wind	Funnel aloft.
lham Bay, ronx County, . Y.	5	Afternoon			1				Electrical	Boy, fishing from a boat, struck by lightning and killed. His companion uninjured.
w England	5	Afternoon and evening				2	25,000		Electrical, rain, and hail	2 electrical storms occurred in many parts of New England. Damage widespread, resulting from lightning-started fires; other damage by direct lightning strikes and short-circuited powerlines.
w Jersey, ortheastern ortion	5	Afternoon				5	15,000		Wind, rain, and hail	Violent thunderstorms in Bergen, Hudson, and Passaic Counties accompanied by strong winds of gale force. Gusts of 55 m.p.h., registered at Teterboro Airport about 2:30 p.m. 3 store windows blown in on main street of Hackensack also several trees blown down; roof of Bogota Sheet Metal Works at Bogota blown off. Numerous houses damaged by lightning in Ridgefield, Fair Lawn, and Saddle River, Bergen County. 5 construction workers injured in Jersey City when wind caused huge form for holding concrete to give way. Hail fell in Bergen and Morris Counties, doing minor property damage, mainly at Teaneck and Englewood.
cos (near), eeves County, Tex.	5	7 p.m.			0	1			Tornado, hail, wind, and rain	Wrecked buildings on 2 farms, 15 miles west and 8 miles west of Pecos. Storm moved eastward.
beson County, N.C.	5	11:50 p.m.				1			Electrical	Man struck by lightning.
	5									Minor storm also reported at Ponca City, Okla.
wa, southestern and entral porions	6	Afternoon and evening					127,000		Wind	Buildings and utilities damaged. Storm moved east-northeastward.
rlan, Shelby ounty, Iowa	6	4:15 p.m.	20	200	0	0	27,000	0	Tornado, wind, and rain	Tornado moved across outskirts of Harlan, destroying buildings in town and on farmsteads. Storm moved east-northeastward.
esel area, cLennan ounty, Tex.	6	5:30 p.m.	5	*3			5,000	20,000	Wind, rain, and hail	90 m.p.h., wind at Soil Conservation Service Watershed Studies Office. Sheds and barns damaged. Storm moved eastward.
yetta, Jackon County, ans.	6	5:30 p.m.	8	900			2,700	15,000	Hail	Storm moved southeastward.
mple area, ell County, ex.	6	6:15 p.m.	15	30	1	1	435,000	200,000	Tornado, hail, wind, rain, and electrical	Collapsed factory, killing one person and injuring another. Roof blown off school, damage to V.A. Hospital and to theater. Area includes Heidenheimer, Little River, and Rogers. Storm moved southeastward.
ody and roy areas, cLennan and ell Counties, ex.	6	6:20 p.m.	6	*2					Wind, hail, and rain	Hail as deep as 16 inches in places; March freeze had given crops late start. Storm moved southeastward.
ady (8 miles outhwest of), cCulloch County, Tex.	6	[illegible]:30 p.m.			0	0		0	Tornado (suspected), wind, and rain	Preceded by duststorm. Homes damaged and trees uprooted.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Junction City (10 miles east of), Geary County, Kans.	6	6:45 p.m.	8	*1			$8,000	$17,000	Hail and wind	Destroyed first cutting of alfalfa; 70 percent dama to wheat. Storm moved southward.
Davilla area, Milam County, Tex.	6	7:30 p.m.	5	100	0	0	115,000	0	Tornado, wind, and rain	Tornado moving southeastward demolished 2 churches, moved another from foundation, and ripped roof off of school.
Marquette County (central portion), Wis.	6	Evening	15						Wind and electrical	Several buildings blown down and trees toppled. Lightning set fire to building on farm. Storm mov eastward.
Elm Creek area, Bourbon County, Kans.	6	11:30 p.m.			0	0	3,000	0	Tornado (suspected) and wind	Large barn destroyed and livestock killed.
Belton Dam, Bell County, Tex.	6		**500						Wind and hail	Boats damaged and 500-yard strip devastated; may be part of Temple storm.
	6									Minor storms also reported near Taylor and in Waco area, Tex.
Leeton (near) and Shawnee Mound (near), Henry County, Mo.	7	11 a. m.					2,000	Slight	Hail and rain	Some stones 1 inch in diameter; heavy fall; hail piled up "like snow drifts" and some hail still o ground next afternoon. Storm moved southeastward.
Columbus, Bartholomew County, Ind.	7	2:30 p.m.				1	5,000		Wind	Large tree blown over on house, destroying 2 rooms a injuring 1 person. Another tree blown over on au mobile, destroying it.
El Reno (near), Canadian County, Okla.	7	4-5 p.m.			1	13	10,000		Hail, rain, wind, and electrical	Death and injuries occurred when drivers blinded b heavy rain. Storm moved northeastward.
Altus, Jackson County, Okla.	7	5:30-6:30 p.m.					25,000	Minor	Wind, hail, and electrical	Stadium fieldhouse, being erected, had some girders blown down. Storm moved northeastward.
Galena, Cherokee County, Kans.	7	6:45 p.m.							Hail	Considerable roof, glass, and automobile damage; a crop losses. Larger hailstones near golf-ball siz
Ponca City, Kay County, Okla.	7	6:50-7:45 p.m.					Considerable	Minor	Hail and rain	Some hailstones 2 inches in diameter. Storm moved southwestward.
Indiahoma and Chattanooga, Comanche County, Okla.	7	7 p.m.-midnight	25	*5			10,000	25,000	Hail, wind, and rain	Hail completely destroyed crops in many places. S moved northeastward.
Enid area, Garfield County, Okla.	7	7:35 p.m.					Considerable	Minor	Wind, hail, and rain	73 Air Force planes damaged. Storm moved northeas ward.
Alpaugh area, Tulare County, Calif.	7								Hail and rain	Extensive damage to crops. In period of 20 minutes total of 1.18 inches of precipitation occurred, it was reported. Cotton fields with newly-sprouted cotton inundated in many places. Hail as large as peas covered ground. Most cotton plants stripped leaves and replanting required. Virtually all hea knocked down in barley field. Hay sustained considerable loss.
Covington, Ky.	7						10,000		Electrical, wind, and rain	Lightning struck dairy barn, resulting in fire which destroyed barn and contents.
Montgomery City (west of), and Wellsville (north of), Montgomery County, Mo.	7				0	0	500	0	Tornado (suspected)	1 home, a garage, and outbuildings damaged; some poultry killed.
	7									Minor storms also reported in Greensburg area, Ind. at Kansas City, Kans.; in Christian and Daviess Counties, Ky.; in Eunice-Yukon communities, Mo.; at Cincinnati, Ohio; at Tonkawa and in Mountain Pa and Snyder areas, Okla.
Florida	7-9						2,000	25,000	Hail, wind, electrical, and rain	Hail in eastern Hillsborough County on 7th; at La Belle on 7th and 8th; at Belle Glade, Stuart, Ven and Live Oak 8th; and in southern and eastern port of Suwannee County on 9th. Hail heavy in vicinity La Belle, Stuart, Venus, and Plant City, and in S wannee County. Crop damage mostly to watermelons Hillsborough County and tobacco in Suwannee County Property damage largely due to wind in vicinity o

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
lorida (contd)										Arcadia. No estimate of damage due to woodland fire in Sarasota County set by lightning on 8th.
ondera County, Mont.	8							Considerable	Winds	Cut off winter wheat at top of ground and drifted much loose soil.
ottoway, Dinwiddie, and Prince George Counties, Va.	8	3-6:20 p.m.	60			1	$125,000	$250,000	Wind, rain, hail, and electrical	Principal losses in Blackstone and Hopewell areas. Hailstones size of marbles, in some instances a little larger, pelted these areas and winds reached gusts over 60 m.p.h., at CAA Communications Station at Blackstone. Considerable damage to crops and buildings by hail and wind. Storm moved east-northeastward.
olorado City, Mitchell County, Tex.	8	3:15 p.m.	1	8	0	0	2,000	0	Tornado, rain, hail, and electrical	Tornado moving northeastward destroyed barn and small house and damaged outhouses and garages.
olumbus, Muscogee County, Ga.	8	Afternoon		25-50	0	0	Minor	0	Whirlwind	Contained tornadic qualities on very small scale. Sudden development described as very small diameter whirlwind that tore off awnings and caused other minor damage to home, then lifted or dissipated without other damage.
ibley, Iowa	8	Afternoon				1	300		Wind	Wind gust blamed for automobile accident.
asquotank, Duplin, Gates, Hertford, Perquimans, Northampton, Greene, Lenoir, and Wilson Counties, N.C.	8	4-6 p.m.				4	46,500	180,000	Hail and wind	Several fishing parties on Chowan River unable to escape pelting by hail, which fell to depth of 2 inches. Some boats reported damaged.
homasville, Thomas County, Ga.	8	5 p. m.	Short	Narrow	0	0	2,500	0	Tornado	Storm of tornadic character dipped close to ground. Rotating winds evident when several pine trees twisted off at about 15 feet above ground; 1 tree first twisted off high among branches and quickly again at about 15 feet above ground. Damage on ground due almost entirely from falling trees or tree branches; heavy pine tree fell on home, demolishing 1 room and doing considerable other damage to roof, and minor damages occurred to adjoining home. Storm moved eastward.
Chapanoke and Nicanor sections, Perquimans County, N. C.	8	6 p.m.	Several	Narrow	0	0	10,000	5,000	Tornado (probable)	Moved 2 large grain bins 1/4 mile, ripped roofs from buildings, twisted off trees, and "mowed" several acres of soybeans.
Altus, Jackson County, Okla.	8	6-7 p.m.			1		1,500	Minor	Electrical, wind, hail, and rain	Soldier struck and killed by lightning while on guard duty. Storm moved northwestward.
Rhode Island and extreme eastern Connecticut	8	7-9 p.m.				2	12,000		Electrical and hail	Major damage caused by lightning-started fire which destroyed home in Voluntown, Conn. Non-damaging hail in northern Rhode Island.
Duke and Blair areas, Jackson County, Okla.	8	8-10 p.m.	20	Narrow	0	0	1,000	Minor	Tornado (suspected), wind, rain, and hail	Storm moved northeastward.
	8									Minor storms also reported at Whitewater and Belle Plaine, Kans.; and at Stillwater, Okla.
Oklahoma City, El Reno, and Edmond area, Oklahoma and Canadian Counties, Okla.	9	9-11 a.m.			0	0	500	Minor	Tornadoes, wind, rain, and hail	Funnel clouds observed at 2 places; moved northeastward.
Great Bend (5 miles west-southwest of), Barton County, Kans.	9	5 p.m.			0	0	2,100	0	Tornado	Small tornado destroyed sheds and killed 125 chickens, moved northeastward.
Carlton, Dickinson County, Kans.	9	9:50 p.m.					16,000		Electrical	Granary, machinery, and 4,000 bushels of wheat destroyed.
Platteville, Weld County, Colo.	9		1/10	100	0	0	500	0	Tornado and wind	Damage to small farm buildings.
	9									Minor storm also reported at Shenandoah, Iowa.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Edwards and Ellsworth Counties, Kans.	9-10	Night							Hail	Variable damage in local areas of southwestern Ellsworth County and west of Lewis in Edwards County.
Jackson and Craighead Counties, Ark.	10	3:30-4 p.m.			0	0	$100,000	Considerable	Wind, hail, and tornado (suspected)	Principal damage in and near Swifton. Funnel report seen, but never dipped. Property damage by wind; crop damage by hail. Storm moved east-northeastwa
Craighead County, Ark.	10	3:30-4:15 p.m.	2	*1			5,000	$6,000	Hail, wind, and rain	Jonesboro, Upper Poplar Ridge, and Dixie Communitie Crop damage by hail; property damage by wind. Stor moved eastward.
Big Spring (northwest and northeast of), Howard County, Tex.	10	4:30 p.m.			0	0	0	0	Tornadoes, rain, hail, and electrical	3 tornadoes moved eastward over open farmland; none believed to have touched ground.
Blytheville, Mississippi County, Ark.	10	4:50 p.m.	5	1,000	0	0	50,000	0	Wind, tornado (suspected), rain, and hail	Principal damage to grandstand which was demolished. Several persons reported seeing funnel; no damage. Storm moved eastward.
Jamestown, Johnson County, Ark.	10	Late afternoon			0	0		0	Tornado (suspected), rain, and electrical	A number of residents reported seeing small "twister which dipped down and went up several times before hitting dwelling which was twisted on its foundatio
Minco, Grady County, Okla.	10	5 p.m.			0	0	0	0	Tornado (suspected)	Funnel cloud aloft reported; moved northeastward.
Elk City, Beckham County, Okla.	10	5 p.m.			0	0	0	0	Tornado (suspected)	Funnel cloud aloft observed; moved eastward.
Clinton, Custer County, Okla.	10	5 p.m.			0	0	0	0	Tornado (suspected)	Funnel cloud aloft reported; moved eastward.
Cogar, Caddo County, Okla.	10	5-5:30 p.m.			0	0	0	0	Tornado (suspected)	Funnel cloud aloft reported; moved eastward.
Sudan (3 miles west of), Lamb County, Tex.	10	6 p.m.			0	0	200	0	Tornado, rain, and hail	Tornado moving northeastward damaged barn and trees.
Kentucky, western portion	10	P.m.				3	100,000		Wind, rain, hail, and electrical	Damage caused by wind. Storm disrupted telephone and electric services; also damaged school, homes, barns and other farm buildings.
Lubbock (near), Lubbock and Lynn Counties, Tex.	10	P.m.	40		0	0	0	0	Tornado and rain	Tornado tracked across a 40-mile swath of farming lan southwest of Lubbock and dissipated 22 miles southwest of Lubbock.
Snyder (20 miles southwest of), Scurry County, Tex.	10	P.M.			0	0	0	0	Tornado	Tornado, not touching ground, reported.
Sundown (2 miles south of), Hockley County, Tex.	10	P.m.			0	0	0	0	Tornadoes	2 funnel clouds sighted; 1 stayed on ground about 2 minutes.
	10									Minor storms also reported at Sanford, Fla.; and near Imperial, Mo.
Coffeyville (west-northwest of), Montgomery County, Kans.	11	8 a.m.			0	0	0	0	Tornado	Funnel cloud visible aloft, moving northeastward.
Hobart (near), Kiowa County, Okla.	11	10:15 a.m.			0	0	0	0	Tornadoes (suspected)	Funnel cloud aloft observed by 2 persons, and 1 perso stated he say 2 funnels aloft near Hobart. 1 funnel observed on ground. Funnels moved northeastward.
Robstown and Calallen, Nueces County, Tex.	11	10:30 a.m.			0	0	Minor	0	Tornadoes and rain	5 funnel clouds sighted over Robstown and Calallen; 2 of them dipped down, causing minor damage to roofs and garages.
Plainview, Hale County, Tex.	11	11:15 a.m.			0	0	0	0	Tornado, rain, and hail	Tornado, not touching ground, reported 5 miles southwest of airport; moved northeastward.
Coffeyville (west of), Montgomery County, Kans.	11	1 p.m.			0	0	0	0	Tornado	Funnel cloud visible; not known to have touched ground
Corpus Christi, Nueces County, Tex.	11	1:10 p.m.			0	0	0	0	Tornado and rain	Tornado moving northeastward, reported over northeastern section of town.

See footnotes at end of table.

able 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
lessa, Ector County, Tex.	11	1:15 p.m.			0	0	50	50	Tornado	Tornado, not touching ground, reported.
ethany, Oklahoma County, Okla.	11	2 p.m.			0	0	0	0	Tornado (suspected)	Funnel cloud aloft reported moved north-northeastward.
ndependence (northeast of) Montgomery County, Kans.	11	2:20 p.m.			0	0			Tornado (suspected)	Rural building damage on 2 farms. Trees destroyed. Partial loss $500.
ltus (near), Jackson County, Okla.	11	Afternoon			0	0	0	0	Tornado	Funnel cloud reported near touching ground.
harleston area, S.C.	11	4-5 p.m.					10,000		Wind, rain, and electrical	Severe local thunderstorm damaged 2 homes extensively, and caused considerable minor damage over city and moderate damage to utilities.
klahoma City, Oklahoma County, Okla.	11	4:10-4:25 p.m.	Short	Narrow	0	0	0	0	Tornadoes	Funnel cloud observed by Weather Bureau employees at 4:10 p.m., that appeared to be touching ground about 8 miles northwest of station; no damage reported. At 4:13 p.m., same observers saw single funnel northeast of city; at 4:15 p.m., another funnel appeared nearby from same cloud; at 4:22 p.m., 4 funnels observed from same cloud. It did not appear that these funnels were touching ground. At 4:25 p.m., rain shower increased in intensity and was between tornado clouds and observers; dark cloud above funnels could be seen, but funnels not visible after 4:25 p.m.
isco to Ranger, Eastland County, Tex.	11	4:15 p.m.	20	2,000	0	0	350,000	0	Wind, hail, tornado, rain, and electrical	Roofs of scores of homes and businesses damaged by hail and wind. T.V. antennas, trees, plate-glass windows, signs, and garages damaged. Tornado observed. Storm moved east-northeastward.
Fort Worth, Tarrant County, Tex.	11	6:04 p.m.			0	0	Minor	0	Tornado, rain, and hail	Funnel cloud moving northeastward, not reaching ground, reported on north side of town in vicinity of Meacham Field.
Girard (5 miles southeast of), Crawford County, Kans.	11	6:43 p.m.	1		0	0	10,000	0	Tornado	Tornado moved northeastward. Property damage principally to outbuildings on 3 farms.
Mildred, Navarro County, Tex.	11	P.m.			0	0	Considerable	0	Tornado and rain	Tornado moving northeastward wrecked several homes, barns, and garages and blew over oil-well derrick.
Childress (near), Childress County, Tex.	11	P.m.			0	0	0	0	Tornadoes and rain	2 tornadoes reported, one 20 miles north, other 6 miles southwest.
Junction (near), Kimble County, Tex.	11				0	0	0	0	Tornadoes	3 funnel clouds, none reaching ground, sighted.
Oakland Bench, Kent County, R.I.	12	A.m.			0	0	0	0	Dust devil	"Small whirlwind" observed by several residents of beach. Described by Providence, R. I., Weather Bureau (in news reports) as dust devil. Swirl of air created clouds of dust, picked up small objects, and bounced stones off houses.
Northampton, Hampshire County, Mass.	12	Afternoon			0	0	1,500	0	Dust devil	Described as "baby twister" by eye witness, but synoptic situation makes tornado classification very doubtful. Storage shed damaged.
Putman County, Tenn.	12	4:30 p.m.	10	300	0	1	10,000	2,500	Tornado and hail	Storm struck communities of Mount Herman and Buck Mountain road. Many roofs blown away and barn picked up and moved about 15 feet off its pillars. Another barn badly damaged. Hailstones as large as guinea eggs reported. Man beaten black and blue by hailstones. Force of wind noted by fact that huge oak tree 6 feet in diameter and weighing estimated 20 tons torn out of ground and carried across fence for 30 feet and did not touch fence. 15 acres of wheat and several acres of corn and alfalfa destroyed by hail.
Rutherford County, Tenn.	12	5:58 p.m.	1/4	20	0	0	20,000	Slight	Tornado	Freak storm hit drive-in theatre near Murfreesboro. Employees said storm was very narrow with funnel touching ground near outdoor screen, completely destroying it. Sounded like jet aircraft passing over. Apparently same storm tore roof off grandstand at Fair Grounds. Storm in connection with same instability line that caused tornado in Putnam County.
Longmont, Boulder County, Colo.	12	P.m.	1/8	150	0	0	5,000	0	Tornado and wind	Roofs torn from small buildings and flying debris damaged 1 automobile. Visibility reduced to near zero during passage of storm.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Plainview vicinity, Hale County, Tex.	12				0	0	$0	$0	Tornadoes (suspected)	3 funnel clouds, none touching ground, reported.
	12									Minor storm also reported at Allatoona Lake, Ga.
Sublette, Haskell County, Kans.	13	2:48 p.m.			0	0	0	0	Tornado	Funnel cloud aloft reported forming 50 miles south of Garden City.
Florence, Marion, Marlboro, and Darlington Counties, S.C.	13	4-7 p.m.	50	*50	2	5	2,500	1,000	Wind, rain, hail, and electrical	Area of severe thunderstorms. Considerable minor damage from hail, high winds, and heavy rain. Lightning killed Marion County farmer and mule and injured 1 woman. Head-on collision of 2 cars attributed to heavy rain; 1 killed in crash and 4 injured. Storm moved eastward.
Kentucky, central and northeastern portions	13	P.m.					70,000	2,000	Rain, electrical, hail, and wind	Heavy rains resulted in widewpread flooding which caused greatest damage. Lightning blew a circuit and broke off electrical service to many homes. In rural areas, principal damage to cultivated ground and tobacco plants by rain and hail.
Northwestern Utah and northeastern Nevada	13	P.m.				1			Wind, dust, and rain	High winds up to 40 to 50 m.p.h., in gusts. Widesprea dust clouds reported 15,000 to 20,000 feet above ground. Showers falling through dust gave several localities a "mud bath." 1 person injured when airplane door blew closed on his head.
	13									Minor storm also reported at Augusta, Ga.
Panama City, Fla.	14	10:30 a.m.			1	3	Minor		Electrical	Lightning killed 1 person, injured 3, and caused minor damage to 2 automobiles.
Kermit, Winkler County, Tex.	14	1:34 p.m.			0	0	0	0	Tornado	Funnel cloud, not reaching ground, reported.
New Orleans, La.	14	4:30 p.m.				2	Slight		Wind, hail, and rain.	Light hail caused some slight damage in lakefront area; 2 persons injured at beach when struck by wind-driven beach umbrellas.
Fort Worth (near), Tarrant County, Tex.	14	6:50 p.m.			0	0	Minor	0	Tornado, wind, rain, and hail	Funnel cloud not touching ground reported 12 miles west-northwest of Fort Worth. House unroofed 3 miles west-southwest of Fort Worth.
Western Utah and eastern Nevada	14								Wind, dust, and rain	High winds up to about 80 m.p.h., in gusts in Milford area. Winds downed powerlines and damaged some buildings. Dust blocked highways in a few places. By evening showers of rain brought "mud baths"to many areas.
Van Alstyne (west of), Grayson County, Tex.	14								Hail and rain	Hail damaged hundreds of acres of cotton and corn. Also damaged some houses.
	14									Minor storms also reported in Suwannee County, Fla.; from Hineston to Cora, and at De Ridder, La.; and in Richmond County, N.C.
Colorado, eastern portion	14, 15, 16		250	*120	0	0	8,000	2,000	Tornadoes, wind, and dust	Fresh to strong winds prevailed over northeastern portion on 14th and eastern plains on 15th and 16th. Heavy dust reduced visibility to zero over several sections, slowed transportation generally, and haulted traffic at some points. Winds gusty in nature and several twisters throughout area caused property and crop damage to extent of $10,000, mostly to small buildings, trees, and transmission lines. Storm moved southeastward.
Cook County (southern portion), Ga.	15	2-5 p.m.	2				5,000	50,000	Hail, wind, and rain	Severe thunderstorms with heavy hail caused considerable losses in spotted areas to tobacco, squash, and other crops. High winds blew down some trees and damaged utility lines in several areas, and heavy rains badly washed fields and some roads. Hailstones measured up to 1/2 inch or greater in diameter, and total area affected by hail indicated to be 8 square miles. Rainfall measured 2.38 inches at Adel during 24-hour period ending at 8 a.m., May 16. Most damage from hail, which beat some crops so badly into ground as to leave trampled-down appearance. Storm moved northeastward.
Beaver, Beaver County, Okla.	15	4-4:30 p.m.	15	*3			50,000	Minor	Hail and rain	Some very large hailstones fell. Storm moved southward.
Dallas, Grand Prairie, Irving, and Grapevine, Dallas and Tarrant Counties, Tex.	15	4:44 p.m.	15				85,000	25,000	Hail, electrical, rain, and wind	Hail and wind damaged gardens and windows in path from Grand Prairie to Grapevine. Lightning damaged 3 homes in Dallas. Storm moved northward.

See footnotes at end of table.

ıble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Grange, roup County, a.	15	Afternoon							Wind, hail, electrical, and rain	Lightning damaged telephone and electric facilities, and heavy rains flooded cables, knocking out 400 or more telephones and electric services over portions of La Grange. Number of trees blown down which pulled down utility lines, disrupting services. Heavy rains accompanying storm measured 2.47 inches. Claims for damages ranged above $50,000, which is believed far in excess of actual losses sustained. Number of houses had roof damage from hail.
n Marcos, ays County, ex.	15	5:20 p.m.							Wind, hail, and rain	Wind ripped roofs from houses and outbuildings. Hail damaged corn, small grains, cars, and roofs.
yden, Terrell ounty, Tex.	15	6:15 p.m.				1	$12,500		Wind and hail	Hail and wind damaged north windows of about every house in town. Gardens damaged. House unroofed. Man injured by hail.
ambers County, Ala.	15	7:30 p.m.					Minor	$100,000	Hail, rain, and electrical	Worst in Starkie, Antioch, and Ridge Grove community. Stones as large as golf balls.
Hedwig icinity, exar County, Tex.	15	7:30 p.m.			0	0		0	Tornado (suspected) and rain	Damaged electric lines and poles.
erman County, Kans.	15	Evening							Wind	Small buildings damaged over much of County. Gusts to 92 m.p.h., in Goodland about 8 p.m.
ndera County, Mont.	15								Snow	Heavy snow cover of about 18 inches detrimental to lambs and calves, as about 60 percent of ranchers out of feed.
guin (5 miles ast of), uadalupe ounty, Tex.	15				0	0			Hail, rain, tornado, and wind	Rain up to 2 1/2 inches; hail size of baseballs; damage to outbuildings and crops.
	15									Minor storms also reported at Eufaula, Ala.; in Indian River, St. Lucie, Jefferson, Suwannee, and Duval Counties, Fla.; at Conway Springs, Kans.; and in Christian County, Ky.
ah	16	Early a.m.							Freeze	Spotted damage to pears, apples, sweet cherries, and strawberries. Damage not considered excessive.
ckson County, N.C.	16	10 a.m.					50,000		Rain	Heavy rain from thunderstorm caused considerable erosion damage.
mp Springs nd Snyder, curry County, Tex.	16	4:20 p.m.	12		0	0		0	Tornado, hail, and rain	Funnel not touching ground seen near Snyder; tore roof off barn 5 miles northeast of Snyder and unroofed several barns and toppled windmill near Camp Springs 12 miles east-northeast of Snyder. Tornado moved northeastward.
ring, Nebr.	16	Afternoon and evening					Few thousand	Heavy	Rain and hail	Basements flooded. Heavy crop damage from hail south of Gering.
eyenne County, Nebr.	16	5-7 p.m.					Many thousand	Many thousand	Wind and hail	Many buildings damaged or destroyed. Heavy crop damage.
Adoo, ickens County, Tex.	16				0	0	0	0	Tornadoes	2 funnel clouds observed at Mc Adoo.
sticeburg near), Garza ounty, Tex.	16				0	0		0	Tornado	Tornado moved northeastward. Trees and windmill blown down and barn unroofed on farm.
	16									Minor storms also reported at Robertsdale and in Covington County, Ala.; in Fort Morgan and Sterling areas, Colo.; and in central New England.
een Bay, rown County, is.	17	1:30 p.m.			0	1	500	0	Dust devil	Whirl developed in flat, sandy area. Several hotbed sashes near greenhouse lifted 50 feet in air. Falling sash smashed 46 other sashes and several windows in greenhouse. Storm moved southeastward.
mb and Hale ounties, Tex.	17	4 p.m.	25	*8	0	0	120,000	35,000	Tornadoes, hail, electrical, and rain	2 tornadoes moving southeastward, but not touching ground seen 3 to 4 miles southeast of Olton. Crop and property damage due to hail in Plainview, Olton, and Hale Center, and about 25 miles northeast of Lubbock.
sley (13 miles ast of), Nebr.	17	Afternoon				5	Slight		Electrical	5 persons injured, one severely, when lightning struck barn. Barn did not burn.
nsas, southestern Counies	17	Afternoon and evening					22,000	215,000	Hail	Scattered wheat losses in Ness, Lane, Finney, Gray, Haskell, Grant, Stevens, and Hamilton Counties. Hailstones to baseball size locally in Finney and Haskell Counties. Damages incomplete. Storm moved southeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Runnels County, Tex.	17	11:30 p.m.			0	0		$0	Tornado, hail, and rain	Hail damaged houses and killed some sheep in County. Tornado northeast of Ballinger turned over barn and wrecked outhouses. Storm moved eastward.
Morton County, Kans.	17	Evening							Hail	Wheat damaged badly south of Elkhart. Wheat and window damage near northern County line.
Chillicothe (3 miles south of), Hardeman County, Tex.	17				0	0		0	Tornado and wind	Car overturned on rural road.
	17									Minor storms also reported at Miami, Fla.; and at Fort Stockton, Tex.
Palacios, Matagorda County, Tex.	18	5:30 a.m.	2-3	*1	0	0	$3,500	300,000	Tornado, hail, rain, and electrical	Hail damaged 1,000 to 1,500 acres of cotton. Roofs lifted and buildings blown from foundations. Storm moved eastward.
Kenedy (15 miles west of), Karnes County, Tex.	18	9:35 a.m.			0	0	0	0	Tornado	Pilot reported funnel cloud reaching ground 15 miles west of Kenedy.
Bartlett and Granger areas, Bell and Williamson Counties, Tex.	18	A.m.		*21/2					Hail, rain, and electrical	Hail wiped out or badly damaged oat, cotton, corn, and maize crops.
Levelland (1 1/2 miles north of), Hockley County, Tex.	18	12:28 p.m.	1/8	600	0	0		0	Tornado, hail, and rain	Tornado moving northeastward uprooted trees and blew down 2 small buildings.
Melrose, Curry County, N.Mex.	18	12:35 p.m.	1/4	20	0	0	1,500	0	Tornado, rain, hail, and electrical	All evidence indicates small tornado, moving northeastward.
Hastings, Jefferson County, Okla.	18	4:15-5:05 p.m.			0	0	2,500	25,000	Hail, tornado (suspected), wind, rain, and electrical	Reports indicate some hailstones as large as basebal. Storm moved south-southwestward.
Lakin (near), Kearny County, Kans.	18	4:21 p.m.			0	0	0	0	Tornado	Funnel cloud aloft sighted.
Wichita, Sedgwick County, Kans.	18	5:10 p.m.			0	0	0	0	Tornado	Funnel cloud aloft visible 15 to 20 miles northwest McConnell Air Force Base.
Corum (near), Stephens County, Okla.	18	10:35 p.m.					15,000	5,000	Hail	Approximately 500 head of sheep and about 20 head of cattle killed by hailstones. Reports state that so hailstones as large as baseballs.
Moulton and Hallettsville, Lavaca County, Tex.	18	P.m.	20	Several hundred	0	0	30,000	20,000	Tornado, hail, rain, and electrical	Tornado at Moulton demolished garage and poultry hous and caused extensive damage to business establishme and houses. Spotty hail at Hallettsville and 10 mil west and northwest caused considerable crop damage. Storm moved southeastward.
Barnhart (8 miles north of), Irion County, Tex.	18				0	0	0	0	Tornado	Tornado not touching ground reported.
Hereford (4 miles west of), Deaf Smith County, Tex.	18				0	0	0	0	Tornado and rain	Tornado not touching ground reported; moved north-northeastward.
Farwell (8 miles southeast of), Bailey County, Tex.	18				0	0		0	Tornado (suspected)	Blew down barn and a tree in West Camp community.
	18									Minor storm also reported at Walters, Okla.
Arkansas River Valley, Colo.	18-23				2	Several	3,000,000	50,000	Rain	Heavy precipitation caused flooding in Arkansas Rive Valley above John Martin Dam, most severe at Trinid on Purgatoire River. Damages mainly to property, highways, and bridges. Some farmlands inundated.
Fort Worth, Tarrant County, Tex.	19	1:15 a.m.					20,000		Wind and rain	A 10-ton repair dock blown over and moved 75 feet aw at Carswell Air Force Base. Probably same storm as reported over city at 1:20 a.m.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
ort Worth, Tarrant County, Tex.	19	1:20 a.m.			0	0	$0	$0	Tornado	Tornado not touching ground formed over city.
allettsville, Lavaca County, Tex.	19	5 a.m.	2	50	0	0	35,000	0	Tornado, electrical, and rain	Tornado moving eastward damaged oil mill, gin, church, funeral home, cafe, and several residences.
ingsville, Kleberg County, Tex.	19	10:15 a.m.			4	2			Electrical and rain	Lightning struck high school campus among group of boys. Storm moved northward.
ichita Falls (east of), Wichita County, Tex.	19	1:10 p.m.			0	0	0	0	Tornado	Tornado not reaching ground reported.
klahoma City, Oklahoma County, Okla.	19	2:59-3:05 p.m.			0	0	0	Minor	Tornado, wind, and rain	Funnel cloud observed by Weather Bureau employees about 1 mile southeast of airport, moving in irregular path; appeared to touch ground at times. It was moving through farm fields west-northwestward to almost over station, but it did not touch ground in immediate vicinity of station; it appeared to be about 200 feet above ground over station, then it moved northeastward and soon disappeared into cloud deck.
klahoma City, Oklahoma County, Okla.	19	3 p.m.			0	0	0	0	Tornado	Funnel cloud aloft was observed about 5 miles southeast of Weather Bureau station, moving northeastward.
klahoma City, Oklahoma County, Okla.	19	3:28 p.m.			0	0	0	0	Tornado	Funnel cloud moving northeastward observed aloft by Weather Bureau personnel; never observed touching ground.
osse (3 miles northwest of), Limestone County, Tex.	19	3:50 p.m.			0	0		0	Tornado	Small tornado damaged farm home and outbuildings. Tornado moved northeastward.
ubbard Township, Dodge County, Wis.	19	4 p.m.	5	1,300			47,000	50,000	Hail, wind, and rain	Hail measuring up to 1 1/2 inches in diameter destroyed crops and damaged other property. Some hail visible in fields 24 hours after storm. Storm moved northeastward.
Alto, Fond du Lac County, Wis.	19	Afternoon							Wind, hail, rain, and electrical	Wind blew in west side of barn and damaged 2 silos and other outbuildings. 10 to 30 percent of hemp and pea crop 2 to 3 miles west of Alto destroyed by hail; 35 acres of hemp replanted. Storm moved eastward.
Goree and Bomarton, Knox and Baylor Counties, Tex.	19	5:30 p.m.		*1/2	0	0	1,000	20,000	Tornado, wind, rain, and hail	Tornado sighted between Bomarton and Goree moving northeastward; did not touch ground. Damage to trees and small buildings. Crop damage from hail. May be a continuation of Benjamin storm.
Evangeline, St. Landry, and Iberville Parishes, La.	19				0	5	40,000	25,000	Tornado, wind, and rain	Storm moved southeastward.
Diboll (west of), Angelina County, Tex.	19		1/2	60	0	0	800	0	Tornado and rain	Damaged homes and outbuildings and destroyed barn.
Lufkin (3 miles north of), Angelina County, Tex.	19				0	0	0	0	Tornado (suspected)	Sighted 3 miles north, not touching ground; moved northeastward. May be same storm as reported west of Diboll.
Guthrie and Benjamin, King and Knox Counties, Tex.	19				0	0	0	0	Tornadoes	3 tornadoes sighted by [illegible] Benjamin, 1 hitting ground.
	19									Minor storms also reported near Rolla, Mo.; and at Gainesville, Tex.
South River, Md.	20	11 a.m.			2				Wind	2 drowned when boat capsized due to winds and overload.
Grays (near), Woodruff County, Ark.	20	1 p.m.	3	80	0	0	5,000	2,000	Tornado, wind, and rain	Tornado funnel observed. Small grain blown down. 1 house destroyed, several damaged. Storm moved northeastward.
Camack Village, Pulaski County, Ark.	20	3 p.m.					Considerable		Electrical and rain	1 house struck by lightning, with considerable damage.
Durkee (near), Baker County, Oreg.	20	3-4 p.m.	10-15	*4-5			17,000	3,000	Wind, rain, hail, and electrical	Hailstones ranging from 1/2 to 7/8 inch in diameter covered ground; winds of considerable velocity broke branches of trees and flattened [illegible] crops. Runoff exceeded capacity of highway, and railways covered

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Durkee, Oreg. (Cont'd)										with debris to extent that traffic was halted for fro a few hours to 2 or 3 days on some county roads. Most property damage caused by flooding of railways and highways. Storm moved east-northeastward.
Jonesboro, Craighead County, Ark.	20	6:30 p.m.					Considerable		Electrical and rain	Several homes and other buildings damaged by lightning accompanied by 1.76 inches of rain.
Chalmette area St. Bernard Parish, La.	20	11 p.m.					$25,000		Wind, rain, and hail	Unofficial 14 to 16 inches of rain, severe lightning and high winds caused damage in Chalmette-Treasure Island area where water ran into stores and houses. Storm moved eastward.
Helena, Phillips County, Ark.	20	Night					Considerable		Electrical and rain	Considerable damage to home struck by lightning; also some damage to telephone and powerlines.
	20									Minor storms also reported at Fort Morgan, Ala.; at Warner Robbins Air Base, Ga.; and at Wiggins, Miss.
Concord area, Merrimack County, N.H.	21	1:30 p.m.			0	2	Minor	$0	Dust devil	Described as "freak gust of wind" which hurled shed, in which 2 girls were playing, about a dozen feet into air. Children suffered cuts and bruises. Flight of shed checked by clothesline. Shed crashed to ground, splintering structure. Sky in area cloudless all day.
Bibb and Jones Counties, Ga.	21	2:12 p.m.	20-30	100-750	0	2	500,000	Little	Tornado, wind, and rain	A rather severe tornado moved through Macon area. 2 persons suffered minor injuries. Storm first noted near Lizella, about 14 miles west-southwest of Macon, moving in east-northeastward direction, continuing through heart of Macon and into extreme southern part of Jones County. Several residents reported seeing dark funnel-shaped cloud and hearing sounds like thos of flight of jet planes. Funnel tip apparently did not touch ground except in spots, with tornadic damag over width of 100 to 200 yards and straight-line wind damage over wider path of about 1/2 mile. Trees and utility lines blown down or uprooted all along path, with falling trees accounting for much of resulting damage. A number of small buildings, including home demolished, and one of heaviest damages occurred to Masonic Home for children where roof torn off. Many structures including automobiles, also utility lines, torn down by falling trees, with more than 2,000 phones knocked out and electricity service broken.
Ludowici area, Long County, Ga.	21	4:30 p.m.	3-4				1,000	10,000	Wind, hail, rain, and electrical	Severe thunderstorm moving northeastward, accompanied by high winds and hail, with lightning and thunder quite active in Ludowici and area 3 miles to northwest. Hail, measuring 1/4 to 1/2 inch in diameter, heavily damaged tobacco and other crops. High winds uprooted trees, damaged utility lines, and caused some other damages of mostly minor nature. Excessively heavy rains washed some fields; amount of rain estimated 4 inches.
Henderson County, Ky.	21	P.m.					15,000		Wind and rain	Winds smashed trees and disrupted communications and power facilities. Broken limbs blocked roads. Roof of grandstand blown off. TV antennas damaged.
Provo, Utah	21	Night							Winds	High winds up to 50 to 60 m.p.h., in gusts. Trees uprooted.
Christian County, Ill.	21							20,000	Hail	
	21									Minor storms also reported at Plant City, Fla.; at Vienna and in Buckeye Creek section, Ga.; and in Madison County, Mont.
	21-22									Minor storm also reported in western portion of South Carolina.
Rome, Floyd County, Ga.	22	8:30 a.m.	Short	Narrow	0	0	2,500	0	Tornado and wind	Small tornado struck locally in western part of Rome, moved northward. Storm appeared as part of severe thunderstorm, suddenly dipping to earth and then lifting after traveling on ground very short distance. Evidence of tornadic circulation plain by lay of trees in different directions on ground, and 1 witness indicated seeing very dark cloud which was preceded by low rumbling noise. Winds blew down a number of trees damaged commercial signs, and tore sections from roof of milling company; miscellaneous damages included some outdoor furniture blown about by winds, including boat which was lifted over fence without damage. Heavy barbacue pit, made of steel and cement, picked up and moved several yards. Only minor damages done to utility lines.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

May 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Augusta, Richmond County, Ga.	22	Late afternoon				3	$5,000		Wind, electrical, hail, and rain	Storm moved northeastward. Some hail about marble size caused no damage. Lightning quite active and struck on local golf course, stunning 3 persons, with no serious after effects. Winds to [illegible] m.p.h., in gusts caused damages estimated at $5,000. 2 trailer houses near Savannah River, foundations partly weakened by accompanying rains, blown over or badly shaken and heavily damaged, trees felled near another house on two sides, slightly damaging it. Utility lines blown down by winds or brought down by falling trees at several locations. Heavy rains flooded some streets, and furnishings damaged by water at one establishment.
Howard County, Tex.	22	7 p.m.	**100	30	0	0	500	$30,500	Tornado (suspected), hail, rain and electrical	Hail destroyed cotton over much of County. Roof lifted from barn about 8 miles northwest of Big Spring. Storm moved eastward.
Abernathy (near), Hale County, Tex.	22	8 p.m.	3	400	0	0	500	1,000	Tornado, hail, and rain	Tornado moving northeastward destroyed 2 barns and trailer in path 7 to 10 miles northeast of Abernathy.
Spearman (12 miles south of), Hansford County, Tex.	22	8:20 p.m.			0	0	0	0	Tornado (suspected)	Storm moving northeastward struck rural area, but no damage resulted.
Balko, Beaver County, Okla.	22	Night		Narrow	0	0	Minor	Minor	Tornado, wind, and hail	Reports state that small tornado cloud struck ground near Balko on U.S. Highway 270.
Milligan, Fla.	22					1	500		Electrical	Lightning injured 1 person and damaged 1 house.
Stoneville, Rockingham County, N.C.	22						10,000		Wind	Newly constructed warehouse walls blown down.
Lubbock (northeast of), Lubbock County, Tex.	22				0	0		0	Tornado (suspected)	Outbuildings on 2 farms destroyed 20 to 25 miles northeast of Lubbock. May be same as Abernathy storm.
	22									Minor storms also reported in Alachua County, Fla.; at Folkston, Ga.; in Iredell County, N.C.; and in Newberry County, S.C.
Orchard (near), Nebr.	23	1 a.m.	15	*8-10			15,000		Wind	Trees uprooted, powerlines blown down, and buildings damaged.
Wharton, Wharton County, Tex.	23	7 a.m.	1/2		0	0			Tornado	Tornado moving northwestward destroyed 2 barns, uprooted trees, and damaged corn.
Fauquier County, Va.	23	7-11 a.m.	40	*15			Minor	Considerable	Hail, rain, and electrical	In Marshall, Scott, Center, and Cedar Run districts. Impossible to estimate damage to crops which went down before harvesting. Storm moved southeastward. 3 severe thunderstorms struck most of County. At least one head of cattle killed by lightning. Many plowed fields washed heavily and several roads blocked by flood waters in Calverton area.
Tyler, Smith County, Tex.	23	8:45 a.m.					10,000		Wind, hail, rain, and electrical	Warehouses, garages, sheds, homes, and TV antennas damaged. Drive-in theatre screen blown over. Trees uprooted. Houses unroofed.
Homer to Lisbon, Claiborne Parish, La.	23	11:30 a.m.	10				30,000		Wind and rain	Broke plate-glass windows, unroofed 2 warehouses, damaged roofs, etc. Storm moved northeastward.
Lucky, Bienville Parish, La.	23	1 p.m.	3	400	0	0	15,000	0	Tornado, wind, rain, and hail	Tornado moving northeastward, cut path through timberland, damaging a number of farmhouses.
Greenville, Washington County, Miss.	23	3 p.m.					15,000	5,000	Wind	Trees uprooted, powerlines downed, small boats crushed on Lake Ferguson, and Mississippi River bridge blown out of alignment; latter not included in damage above.
Baldwin and Eudora areas, Douglas County, Kans.	23	4 p.m.							Hail and wind	Local hail and wind damage to crops near Eudora. Wind damage to property and power and communication lines around Baldwin.
Hennessey, Kingfisher County, Okla.	23	4:15 p.m.					500	1,000	Hail, wind, and rain	Reports state that some hailstones 1 inch in diameter. Storm moved northeastward.
Kernersville, Forsyth County, N.C.	23	4:15 p.m.			2				Electrical	2 men killed in field.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Wichita, Sedgwick County, Kans.	23	4:28 p.m.			0	0	$ 0	$ 0	Tornado and hail	Funnel cloud dissipated over southern part of Wichita Hailstones 2 1/4 inches in diameter in Wichita. Stor moved northeastward.
Arkansas, southeastern portion	23	Afternoon					12,000		Wind, electrical, and rain	Warren, Dermott, and McGehee reported wind damage. 1 barn near Camden burned when struck by lightning. Wind losses estimated at $10,000, lightning $2,000.
Tampa, Fla.	23	Afternoon			1				Electrical	
Alma (west and north of), Lafayette County, Mo.	23	6:30 p.m.	5-6	880			Several thousand	Considerable	Wind, hail, and rain	Hail did some damage; most damage by wind. Storm moved northeastward.
Monroe, Vernon, and La Crosse Counties, Wis.	23	7 p.m.				1			Wind, electrical, hail, and rain	Moderate wind damage to signs, aerials, windows, and trees in Cashton. 6 tobacco sheds and several silos destroyed south of Cashton. At La Crosse man struck by lightning; other minor wind damage at La Crosse. Storm moved east-southeastward.
Chanute area, Neosho County, Kans.	23	7:14 p.m.			0	0	0	0	Tornado	Funnel cloud aloft 8 to 10 miles north of Chanute.
Stanford, Dutchess County, N. Y.	23	8 p.m.						20,000	Electrical	2 barns struck by lightning and burned with contents.
Collinsville (near), Tulsa County, Okla.	23	8:35 p.m.	Short	Narrow	0	0	0	0	Tornado and electrical	Funnel cloud aloft moving northeastward reported by highway patrolman.
Waldwick area, Iowa County, Wis.	23	10:30 p.m.	3	*1			Heavy	Heavy	Wind, hail, rain, and electrical	5 barns, 2 silos, and numerous other farm buildings destroyed by wind. Hail covered ground 6 to 8 inches causing heavy damage to hay and grain crops. Erosion from rain heavy.
Pennsylvania	23	P.m							Wind and electrical	Numerous thunderstorms in afternoon and evening accompanied by gusty winds which damaged trees and power and communications lines, disrupting service in scattered areas. Some major losses caused by severe lightning are: At Columbia, factory destroyed by fire damage $100,000; Selinsgrove, house fired, $6,000 damage; Bethlehem, church steeple destroyed by fire; Lancaster County, cottage on island in Susquehanna River destroyed by fire; Hazleton, 6 properties struck; Haverford Township, Montgomery County, 6 homes struck; Corry, house roof fired, damage $3,000. Numerous other buildings struck and damaged, mostly in eastern counties.
Salt Lake Valley, Utah	23	P.m.							Wind	High winds about 40 m.p.h., in gusts. Power outage du to tree falling on line.
Guthrie, Logan County, Okla.	23	Night					Minor	2,000	Hail and rain	Reports state that some hailstones 1 inch in diameter. Storm moved eastward.
Marathon and Shawano Counties, Wis.	23	Evening							Wind, electrical, and rain	Near Birnamwood 2 barns and silo blown down. Falling trees damaged homes and cars and disrupted utility services. At Norrie falling tree crushed a home. Near Marion cattle killed by lightning and utilities disrupted.
Kansas, south-central and southeastern portions	23	Evening					34,000	186,000	Hail, wind, and rain	Scattered losses in Harvey, Sedgwick, Sumner, Labette, and Crawford Counties. Additional local damages in Woodson and Cherokee Counties. Wind damage of $35,000 to crops included in total.
	23									Minor storms also reported at Fort Deposit, Thomasvill and Vance, Ala.; in Benton County, Ark.; at Jefferson ville, Ind.; at Dexter, Cedar Rapids, and in Floyd an Winneshiek Counties, Iowa; at Lexington and near Vicksburg, Miss.; and in Yellowstone County, Mont.
Philadelphia (southeast of), Marion County, Mo.	24	Early morning					Considerable		Electrical	Barn burned.
Cleveland, Ohio	24	Early morning							Rain and electrical	Record May rainfall of 3.15 inches in 24 hours, falling within 3 hours. Flooded basements, stalled cars, and interrupted utilities. Lightning hit numerous buildings, a few of which burned.
Birmingham, Ala.	24	Early afternoon					10,000		Wind, rain, and electrical	Damage in western portion of city.
Chilton County, Ala.	24	2:15-2:45 p.m.	5	*1			20,000		Wind, rain, and electrical	Wind lasted about 30 minutes with estimated speed up to 65 to 75 m.p.h. Miscellaneous damage in Clanton, Liberty Hill, and Concord Church communities.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Selma, Dallas County, Ala.	24	3:35-5 p.m.	2	*2			$100,000		Wind, rain, and electrical	Storm moved eastward.
Turner County (southern portion), Ga.	24	4 p.m.	15-20	*4			2,500	$21,000	Wind, hail, and rain	Severe thunderstorm along squall line moved northeastward from extreme southern Turner County [illegible] Little River area through Inaha community and ending just beyond Bethel community, 3 miles east of Sycamore. High winds uprooted trees in several areas, and property damage included porch and chimney torn from home with other similar damages; wind damage to property $2,500 to crops $1,000. Heaviest loss due to hail, which measured in some sections as large as 1 1/2 inches in diameter. Hail badly battered several fields of tobacco, shredded corn in some fields, and stripped cotton to practically total losses in affected areas.
Illinois, northeastern quarter	24	Afternoon					100,000	25,000	Rain, wind, and electrical	Heavy rains with intense lightning and some locally strong winds caused mostly minor local damage, but over a comparatively large area from Champaign County northward and eastward.
Marietta, Cobb County, Ga.	24	5 p.m.	5	300	0	0	50,000	0	Tornado, wind, and rain.	Several witnesses reported seeing funnel-shaped cloud and hearing shrill whistling sound during passage of storm. Storm struck first about 2 miles west of Marietta and moved east-northeastward through southern and eastern Marietta, probably lifting from ground short distance beyond eastern edge of Marietta. Wind speeds in path of storm must have reached 90 m.p.h., or greater, as peak speed in excess of 70 m.p.h., recorded at Dobbins Air Force Base, just to south of route followed by storm. Heaviest damage in eastern Marietta, with 12 or more buildings suffering heavy damages to roofs, windows, etc.; farther out high winds ripped up billboards and other small structures and objects in path, and substantial damage occurred in trading center, to several business establishments and nearby homes. Much damage from storm due to falling trees or debris blown around by high winds.
Banner County, Nebr.	24	Afternoon and evening					Slight	Many thousands	Hail and rain	Drifts of hail blocked some roads. Roads severely damaged by heavy rain.
Cherokee, York, Richland, and Lee Counties, S. C.	24	Afternoon and evening				1	1,500		Wind, rain, hail, and electrical	Thunderstorms in connection with squall line caused minor damage at Columbia; at Sharon woman injured when tree crashed into her home; and at Bishopville, considerable minor damage reported. Most damage from falling limbs and trees, minor damage to utilities and television antennas. Storm moved eastward.
Stratton (near), Nebr.	24	5:45 p.m.					Slight	50,000	Hail	Drifts of hail 4 to 6 inches deep on U.S. Highway 34. Wheat and alfalfa crops destroyed.
Thomson (near), McDuffie County, Ga.	24	8:30 p.m.	1	50	0	0	4,000	1,000	Tornado (suspected), wind, and rain	Moderately severe storm, apparently tornadic, moved eastward over a short path immediately south of Thomson. Considerable small damage done along narrow width, crossing Salem Road and U.S. Highway 78 about 1/2 mile south of Thomson. Damages included wooden roof lifted from store, roofing torn off several homes, television aerials twisted or blown off their supports, several utility poles and lines blown down, and a number of pecan trees substantially damaged.
Augusta, Richmond County, Ga.	24	8:45 p.m.			3		15,000		Wind, rain, and electrical	Strong gusty winds developed over northern Augusta in connection with eastward moving squall line. Lighter damage widespread in city with considerable damage done in downtown area where winds quite strong (indicated at more than 80 m.p.h., at Daniel Field). Focal point of damages was baseball park where more than 100 feet of concrete wall blown over, causing death of 3 persons. Part of roof of theater materially damaged, 10 or more business house plate-glass windows blown out, with considerable damage to neon signs and other outside fixtures, several auto trailer homes blown over, and many trees and utility lines blown down, causing disruption of services. Storm moved east-northeastward.
Aiken County, S.C.	24	9-10 p.m.	20	880	0	0	10,000	1,000	Tornado (suspected), wind, rain, and electrical	Moved from Augusta, Ga., area through Horsecreek Valley thence northeastward through heart of Aiken. Considerable damage to utilities, a number of trees blown down, and numerous minor damages to homes, etc. Storm caused minor damage in North Augusta area, and Bath and Clearwater communities. No definite path of integrated storm beyond general Aiken area. Apparently was severe thunderstorm in northeast-southwest squall line area that moved across South Carolina.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Michigan, southern portion	24	P.m.			2	3	$500,000	$50,000	Electrical, winds, and and rain	Damage from lightning, winds, and flooding rains scattered across southern portion of State. Much flooding due to heavy thundershowers; worst damage at Sparta, Kent County, where much of business district flooded. 3,000 acres of farm muckland flooded near Grant, Newaygo County. Lesser flooding damage reported in many localities in southern Michigan. Wind destroyed large, boat-repair and storage building at Holland. 2 men killed by lightning near St. Johns, Clinton County. Lightning and wind damaged many utility lines. A number of homes and other buildings damaged by lightning.
	24									Minor storms also reported at Montgomery and Ashville, Ala.; at Milledgeville, Vienna, and Rockmart, Ga.; at La Porte, Ind.; in Maine; at Holly Bluff, Miss.; and in Sampson County, N. C.
Altus, Jackson County, Okla.	25	5 a.m.	Short	Narrow	0	0	Minor	Minor	Tornado (suspected), wind, and hail	Storm moved northeastward.
Blackwell area, Kay County, Okla.	25	6:55 a.m.			1		25,000	2,000	Electrical, wind, and rain	Oilfield worker killed by lightning 7 1/2 miles east of Blackwell. Storm moved eastward.
Ripley, Payne County, Okla.	25	8 a.m.			1		5,000	Minor	Electrical, wind, and rain	Man killed by lightning when it struck powerline and one of broken wires struck him. Storm moved eastward
Paducah (near), Cottle County, Tex.	25	10 a.m.	15	1,770					Hail, wind, rain, and electrical	Hail caused 25 percent loss to wheat and oat crops in Salt Creek community. Storm moved southeastward.
Newkirk, Kay County, Okla.	25	11 a.m.					10,000	4,000	Wind, electrical, and rain	Widespread damage by wind and lightning. Storm moved eastward.
Cowley County, Kans.	25	11 a.m.					30,000	Minor	Wind	Gusts estimated 60 to 65 m.p.h. Widespread tree and minor property damage. Numerous power and communication failures. Storm preceded by locally heavy rains and ominous-appearing clouds throughout Kansas earlie in forenoon.
Collingsworth and Wheeler Counties, Tex.	25	3:17 p.m.	30	1,060	0	5			Tornado, hail, electrical, and rain	Tornado first sighted 10 miles north of Wellington, touching ground in open field and moving northeastward, entered Oklahoma 15 miles east of Wheeler. From 8 miles east to 20 miles northeast of Shamrock, 5 homes destroyed, some livestock killed, and many buildings damaged. Portions of highway lifted.
Memphis, Hall County, Tex.	25	4 p.m.							Hail	Hail reported size of baseballs.
Moultrie, Colquitt County, Ga.	25	4:50-5:30 p.m.					500	45,000	Wind, hail, and rain	Severe thunderstorm, accompanied by high winds, heavy rains, and hail. High winds, rising in gusts up to 75 m.p.h., at Spence Air Base near Moultrie, bowled over and damaged 6 airplanes. Winds in rural areas, accompanied by hail as large as 1/2 inch in diameter, caused damages to crops estimated by county agent at $45,000. Lightning slightly stunned 4 persons without causing injury. Storm moved eastward.
New Jersey, northeastern portion	25	Afternoon					15,000		Wind and electrical	Lightning damaged numerous residences in Passaic and Bergen Counties, particularly in Ridgewood, Clifton, and East Paterson. Damage to powerlines caused current to be off in approximately 25,000 residences in Essex, Union, Morris, and Somerset Counties.
New England	25	Afternoon and evening					30,000		Rain and electrical	Heavy rains of short duration caused local flooding and road washouts. In Rutland, Vt., flooded cellars caused several thousand dollars damage to stored merchandise. Trees and wires downed by lightning and phones knocked out in many areas.
Rush Springs (near), Grady County, Okla.	25	6 p.m.			0	0	3,000	Minor	Tornado (suspected), wind, and rain	
St. Francis, Cheyenne County, Kans.	25	6 p.m.					125,000		Hail	Most severe damage in immediate St. Francis area.
Shattuck, Ellis County, Okla.	25	6 p.m.	4	400	0	0	1,000	Minor	Tornado, wind, rain, hail, and electrical	Tornado moved north-northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Cheyenne (near), Roger Mills County, Okla.	25	6-7 p.m.	10	400	2	8	$250,000	$5,000	Tornado, wind, and rain	Tornado moving north-northeastward entered State from Texas, at least 7 farm homes destroyed. Deaths occurred on farm 12 miles southwest of Cheyenne.
Mayfield, Beckham County, Okla.	25	6:05 p.m.	3	300	0	0	Minor	Minor	Tornado and wind	
Dunklin County, Mo.	25	6:30 p.m.						Considerable	Hail	Hail size of marbles.
Kingfisher (near), Kingfisher County, Okla.	25	7-8 p.m.			0	0	1,500	1,500	Tornado (suspected), wind, and rain	Tornado moved northeastward.
Antonino (near) Ellis County, Kans.	25	7:40 p.m.			0	1	2,500	0	Tornado and electrical	Lightning damaged church tower. Tornado damaged farm buildings north of Antonino.
Grandfield, Tillman County, Okla.	25	8 p.m.	3	880			12,000	50,000	Hail, wind, and rain	Storm moved northeastward.
Camargo area, Dewey County, Okla.	25	8-9 p.m.	5	300	0	1	50,000	3,000	Tornado, wind, rain, and hail	Tornado moving north-northeastward destroyed 5 residences and trailer home. Occupant to trailer received severe injuries.
Chattanooga, Comanche County, Okla.	25	8:45-9:30 p.m.					25,000	60,000	Hail, wind, and rain	Storm moved northeastward.
Kansas, south-central portion	25	9 p.m.				3	50,000	50,000	Wind and hail	Scattered wind and hail damage in Sumner, Sedgwick, Crowley, and Butler Counties in thunderstorms preceding and accompanying Udall tornado.
Deer Creek, Grant County, Okla.	25	9 p.m.	12	440	0	1	25,000	5,000	Tornado, wind, rain, and hail	Storm moving northeastward struck rural farming area and wiped out numerous buildings within city limits. Virtually every house north and west of business district suffered damage. Man injured when his farmhouse completely demolished, along with big barn, chicken houses, and other outbuildings.
Tonkawa (near), Kay County, Okla.	25	9 p.m.	3	500	0	0	150,000	10,000	Tornado, wind, rain, and hail	Tornado moving north-northeastward demolished houses and barns and crumpled steel granaries and machinery in farmland northeast of Tonkawa.
Tipton County, Tenn.	25	9 p.m.					10,000	20,000	Hail	Severe thunderstorm hit Covington section of Tipton County accompanied by hail as large as ping pong balls. Damaged young corn and cotton.
Blackwell, Kay County, Okla.	25	9:26 p.m.	15	500	20	280	8,000,000	15,000	Tornado, wind, rain, and hail	Approximately 400 homes destroyed and an additional 500 damaged. 20 business establishments destroyed and an additional 40 damaged. Tornado moved northward.
Shawnee, Pottawatomie County, Okla.	25	10-11 p.m.					10,000	Minor	Wind, rain, hail, and electrical	
Rotan (southeast of), Fisher County, Tex.	25	10:30 p.m.	1/4	*1/4	0	0	1,200	0	Tornado, electrical, and rain	Tornado moving northeastward demolished barn, killing bull; damaged other outbuildings and homes on 2 farms southeast of Rotan. Tree uprooted. Lightning destroyed home 4 miles southeast of Rotan.
Sumner and Cowley Counties, Kans.	25	10:15-10:35 p.m.	45	*1/4-1/2	80	270	2,225,000		Tornado, wind, hail, rain, and electrical	Tornado followed swinging, slightly east of north course from Oklahoma-Kansas line from south of Ashton across extreme eastern Sumner County to Udall in Cowley County and thence east-northeastward, passing to south of Rock and lifted just north of Atlanta. Main damage path mostly 1/4 to 1/2 mile wide, and indicated occasional swinging of funnel as much as a mile either side of smoothed path, especially during its northward movement. Damage in entire path, but indicated occasional partial lifting. Tornado swung eastward around town of Oxford and 5 children in one family 2 miles north of Oxford were only Sumner County deaths. Town of Udall, population 500, almost completely destroyed with 75 deaths and with most of 270 injuries of which 165 were of major nature. Farmsteads and farm implements along tornado path sustained heavy damage. Reliable reports on time of occurrence place tornado at Blackwell, Okla., at 9:27 p.m., 5 miles south of Oxford at 10:15 p.m., and Udall at 10:35 p.m., making speed of translation approximately 39 m.p.h.
Duke (near), Jackson County, Okla.	25	11-12 p.m.	5	300	0	0	20,000	10,000	Tornado (suspected), wind, rain, and hail	Considerable hail damage in area also. Storm moved northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Knox City (9 miles west of), Knox County, Tex.	25	11:30 p.m.	10	300	0	0	$5,000	$2,000	Tornado, hail, rain, and electrical	Destroyed barn and chickenhouse. Broke windows and damaged 2 houses and uprooted trees. Storm moved northeastward.
Sterling City area, Sterling County, Tex.	25	P.m.		*1/4	0	0	0	0	Tornado, hail, rain, and electrical	Tornado moving northeastward touched ground 12 miles southwest of Sterling City.
Mississippi County, Ark.	25	Evening						100,000	Hail, rain, wind, and electrical	Practically every community in County suffered loss. Approximately 3,000 acres of cotton and 5,000 acres of other crops badly damaged. Accompanied by 4 1/2 to 6 inches of rain.
New Madrid, Mo.	25						Considerable		Wind	23 homes damaged.
Electra, Wichita County, Tex.	25								Hail	Hail reported 8 inches in circumference.
Zephyr (1 mile east of), Brown County, Tex.	25								Electrical	Lightning struck and burned 7-room home.
	25									Minor storms also reported at Orlando, Fla.; at Houston, Mo.; in Lenoir County, N.C.; and at Ponca City and Braman, Okla.
Kansas, northeastern portion	26	12:27 a.m.			0	0	200,000	25,000	Tornado and wind	Wind and intermittent tornado damage occurred from Lyon to Osage, Shawnee, Douglas, Jefferson, Leavenworth, and Atchison Counties. Tornado damage occurred intermittently from near Osage City to near Overbrook, Williamstown, Tonganoxie, Lowemont, Potter, Millwood, and Leavenworth. High winds widespread in adjoining areas. Storm moved northeastward.
Wichita Falls, Wichita County, Tex.	26	1:38 a.m.	1		0	0	25,000	0	Tornado, electrical, and rain	Washateria demolished and severe damage to several business structures, homes, and trees. Tornado moved northeastward.
Lawton, Comanche County, Okla.	26	2 a.m.				2	25,000	20,000	Electrical, wind, and rain	2 persons injured when lightning struck their homes. Storm moved northeastward.
Velma, Stephens County, Okla.	26	2:30 a.m.			0	0	15,000	1,000	Tornado (suspected) and wind	
Chickaska, Grady County, Okla.	26	2:30 a.m.			0	0	6,000	Minor	Tornado (suspected), wind, rain, and hail	Tornado moved eastward.
Oklahoma City, Oklahoma County, Okla.	26	3 a.m.	1/2	50	0	0	20,000	Minor	Tornado, wind, and rain	Tornado moved northeastward over southeastern part of City
Norman (near), Cleveland County, Okla.	26	3 a.m.	10	75	0	0			Tornado, wind, hail, and rain	Tornado moved northeastward.
Modena (2 miles northeast of), Mercer County, Mo.	26	3 a.m.	1	100	0	0	Several thousand	0	Tornado and rain	Tornado moving northward destroyed 1 small house and a few outbuildings.
Shawnee (near), Pottawatomie County, Okla.	26	3:30 a.m.			0	0	Minor	Minor	Tornado (suspected), wind, and rain	Shawnee residents reported they heard strong winds "very high up" going over City. Roof of 1 house ripped off leaving walls standing at Bethel.
Cushing, Payne County, Okla.	26	4 a.m.			0	0	Minor	Minor	Tornado (suspected) and wind	Tornado moved northeastward.
Weatherford (5 miles south of), Parker County, Tex.	26	5 a.m.			0	0		0	Tornado, electrical, and rain	Tornado seen moving eastward, but not reaching ground. Lightning killed 3 cows.
Durant, Bryan County, Okla.	26	5:20 a.m.	4	50	0	0	10,000	Minor	Tornado (suspected), wind, and rain	Hit and skip damage were evidences of small funnel on ground. Storm moved northeastward.
Cherokee and Crawford Counties, Kans.	26	6 a.m.	15				30,000		Wind and rain	Severe windstorm with much tree and minor property damage in northeastern Cherokee and southeastern Crawford Counties in and near communities of Scammon, Weir, and Pittsburg.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Tahlequah, Cherokee County, Okla.	26	6 a.m.					$10,000	$1,000	Wind and rain	Storm moved eastward.
Wellsville, Franklin County, Kans.	26	6:30 a.m.				2	Minor		Electrical	Minor damage to building. Livestock killed.
Sallisaw, Sequoyah County, Okla.	26	6:45 a.m.	10	400	0	2	5,000	Minor	Tornado (suspected), wind, and rain	Woman injured by falling utility pole as she was going to storm shelter, also her child reported injured. Storm moved northeastward.
Joplin, Jasper County, Mo.	26	7 a.m.			0	0	Considerable	0	Tornado (suspected)	Many large trees uprooted.
Pierce City-Friestatt areas, Lawrence County, Mo.	26	8 a.m.					Considerable		Wind	
Corsicana, Navarro County, Tex.	26	8:30 a.m.			0	0		0	Tornado, rain, and electrical	Small tornado broke plate-glass window and damaged 2 other buildings in downtown.
Tipton (3 miles northeast of), Moniteau County, Mo.	26	9:45 a.m.			0	0	1,000	Slight	Tornado (suspected)	
Hannibal and vicinity, Marion County, Mo.	26	11:30 a.m.					Considerable		Wind	Several homes and outbuildings damaged.
Paris (10 miles southwest of), Monroe County, Mo.	26	11:30 a.m.	3	200	1		5,000	10,000	Wind, rain, and hail	1 man killed when cattle barn blew down or collapsed. Storm moved northeastward.
Coatsville Village, Adams County, Ill.	26	11:50 a.m.	1 1/2	500	0	0	20,000	2,000	Tornado	Tornado moved northeastward. Some damage sustained by 80 percent of all buildings in village of Coatsville.
Iowa, most of State	26	Early a.m.-late p.m.					11,300	800	Wind, rain, and hail	Buildings, crops, and utilities damaged.
St. Louis, Mo.	26	12:30 p.m.				1	15,000		Wind	
McPherson and Abilene, McPherson and Dickinson Counties, Kans.	26	1 p.m.			0	0	Minor		Tornado, wind, and hail	Tornado cloud sighted north of McPherson. Locally heavy hail north of McPherson. Minor wind damage in Abilene. Storm moved northeastward.
Pekin, Tazewell County, Ill.	26	2:49 p.m.	1	800	0	1	75,000	0	Tornado	Tornado moved northeastward; hit southeastern residential area of City.
Between Elwood and Arapahoe, Nebr.	26	Midafternoon			0	0	0	0	Tornadoes	2 funnel clouds observed, neither reached ground.
Jackson County (southern half), N.C.	26	3 p.m.						15,000	Hail	
Nemaha and Brown Counties, Kans.	26	3:30 p.m.					5,000	50,000	Hail	Heavy hail extended from north-central Nemaha County to local areas in south-central Brown County. Egg-size hail near St. Benedict. Storm moved southeastward.
Chicago, Ill.	26	4 p.m.	11/2	100	0	2	50,000	1,000	Tornado	Storm developed to southwest of residential areas of Chicago; moved northeastward.
Kankakee and Will Counties, Ill.	26	4:30 p.m.	19	400	0	0	50,000	20,000	Tornado and waterspout	Storm developed in northern edge of Kankakee County, touched Will County and caused waterspout as it crossed Lake Manteno. Storm moved northeastward.
Garland and Saline Counties, Ark.	26	4:45-5:15 p.m.	30	500-1,500	0	3	200,000	Considerable	Tornado, wind, rain, and electrical	Principal damage in Blakely community, 1 mile from Jessieville, where 23 homes damaged in Garland County. Also, some damage in Jessieville. Considerable damage to timber. Storm moved northeastward.
Montgomery County, Ark.	26	Afternoon					Considerable		Wind and rain	Several buildings in Hurricane Grove community damaged. Heavy rains (about 4.70 inches in 2 hours at Mt. Ida) added to damage.
Illinois, most of State	26	Afternoon				15	1,000,000	100,000	Wind, hail, and electrical	Widespread belt of severe thunderstorms extending from Alton northeastward to Chicago area and over all sections to Indiana border. Widespread damage with total of $100,000 in Springfield area alone. Hail damage to crops in many local areas.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Norfolk, Suffolk, and Middlesex Counties, Mass.	26	Afternoon			1		$20,000		Electrical	1 person killed in lightning-started fire in Lexington, Mass., which also destroyed farmhouse. Many homes and buildings struck by lightning with damage mostly light. Most of fire-alarm systems temporarily knocke out in Woburn.
Homer (1 mile west of), to Dakota City (7 miles southwest of), Dakota County, Nebr.	26	5 p.m.	5	20	0	0	Few thousand	Slight	Tornado	Funnel cloud reached ground on a few farms. Damage mainly to buildings on 3 farms. Tornado moved northwestward.
Crossroads (4 miles north of), Perry County, Ark.	26	5:20 p.m.	5	880	0	0	10,500	$0	Tornado, wind, rain, and hail	Tornado moved northeastward. 11 barns hit, 5 destroyed completely. 2 garages unroofed, and roofs of 8 houses damaged or destroyed.
Doniphan County, Kans.	26	5:30 p.m.	7		0	1	20,000	Minor	Tornado	Tornado moved northeastward. Destruction began 9 miles southeast of Troy. Storm path extended through southeastern part of County. Numerous rural buildings damaged or destroyed.
Wayne (northeast of), Wayne County, Nebr.	26	5:30 p.m.	5	100-200	0	1	7,000	0	Tornado	Destroyed some buildings on 5 farms. Moved northeastward. Loud rumbling noise.
Norborne (2 miles north of), Carroll County, Mo.	26	6 p.m.			0	1	Few thousand	0	Tornado	Damage confined to 1 farm homestead, including outbuildings.
Fort Scott, Bourbon County, Kans.	26	6:30 p.m.			0	0	0	0	Tornado	Tornado cloud.
Frankston, Anderson County, Tex.	26	6:30 p.m.						10,000	Hail, electrical, and rain	Damaged tomato crop and home gardens. Storm moved eastward.
Prairie Grove, Washington County, Ark.	26	7 p.m.					Considerable		Wind	Several barns blown down; many trees uprooted; many television aerials downed. Storm moved northeastward.
West Plains (15 miles southeast of), Howell County, Mo.	26	7 p.m.			0	0	500	Slight	Tornado (suspected)	Orchard destroyed.
McDonald County, Mo.	26	7:30 p.m.					Considerable	Slight	Wind and hail	Damage confined mostly to roofs, antennas, barns, and outbuildings; mostly by wind.
Livonia (2 miles east of), Schuyler County, Mo.	26	8 p.m.	12	25	0	2	20,000	Slight	Tornado, rain, and hail	Tornado moving northeastward uprooted trees and damaged or destroyed buildings.
Woodruff and Jackson Counties, Ark.	26	8:20 p.m.	8	Narrow	0	7	Considerable	Considerable	Tornado and wind	Tornado moved northeastward. From Fitzhugh to near Weldon. American Red Cross reported 6 houses destroyed, 25 houses damaged; 12 other buildings destroyed, and 27 others damaged.
White County (northern portion), Ark.	26	8:30 p.m.	14	*2			75,000	30,000	Wind and rain	Damage to many farms. Storm moved northeastward.
Tennessee Colony, Anderson County, Tex.	26	9:30 p.m.	6-7	880				25,000	Hail, wind, rain, and electrical	Hail completely destroyed vetch and oat crops. Wind damaged roofs and uprooted trees. Storm moved southeastward.
Baxter Springs (near), Cherokee County, Kans.	26	Evening			0	0	0	0	Tornado (suspected)	Tornado cloud moving eastward touched ground west of Baxter Springs.
Laclede (3 miles northwest of), Linn County, Mo.	26	Night			0	0	Several thousand	Slight	Tornado and rain	Tornado moved northeastward. Damage confined to 1 farm; large barn and hoghouse destroyed and 1 small pig killed.
	26									Minor storms also reported in Hamilton and Adams Counties, Iowa; at Washington, Weston, and Burr Oak, in Salisbury Township, near Green Ridge, in vicinities of Perry and Elsberry and southwest of Millersburg, Mo.; at Bartlett, Nebr.; at Snyder, Muskogee, Bristow, and near Oklahoma City, Okla.; and at Vernon, Tex.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Pulaski, Lonoke, Prairie, and Monroe Counties, Ark.	26-27	6:30 p.m.-4 a.m.					$1,000,000	Considerable	Rain, wind, hail, and electrical	Principal damage in Little Rock where heavy rains (7.71 inches at airport) caused water to accumulate as much as 6.8 feet deep in lower sections of City, with extensive damage to warehouses and other property. Many automobiles stalled. Several streets closed for a time because of high water. Several persons evacuated by boats. Heaviest rain reported from an official gage was 9.45 inches at Keo. Some washing and flooding of cotton. Storm moved east-northeastward.
Wakenda (near), Carroll County, Mo.	27	Morning					Slight	Considerable	Hail	Damaged small grains.
Phillips County, Kans.	27	2:30 p.m.			0	0	0	$0	Tornado and rain	Funnel sighted touching ground 6 miles northwest of Kirwin at 2:30 p.m., and either same or another funnel sighted 5 miles north and 6 miles east of Phillipsburg at 2:55 p.m. Storm moved northeastward.
Arnold, Ness County, Kans.	27	4:20 p.m.	6	*2			Minor	35,000	Hail and rain	Small hailstones accumulated to depth of 5 or 6 inches; much vegetation destroyed.
Kansas, south-central and southeastern portions	27	6:27-11 p.m.			0	0	425,000		Tornadoes, wind, and rain	Violent windstorms and tornadoes accompanied passage of squall line. Began near Dodge City at 6:27 p.m., and progressed to Miami and Neosho Counties by 11 p.m. Numerous funnels sighted and damage reports and witness accounts indicate funnels touched ground for short distances. Widespread tree and property damage throughout area, and particularly in southern 2 tiers of counties. Tornado sightings and areas of major damage: 6:27 p.m., 5 miles south-southwest of Dodge City, Ford County, tornado sighted. 7 p.m., Mineola, Clark County, damaging windstorm. 7:15 p.m., Bucklin, Ford County, 2 funnels seen touching ground in open fields; extensive tree damage. 7:30 p.m., Coldwater, Comanche County, severe windstorm with gusts estimated up to 100 m.p.h.; much tree and building damage. Kinsley, Edwards County, funnel aloft reported. Larned, Pawnee County, funnel passed directly overhead; minor wind damage. 8:15 p.m., Medicine Lodge, Barber County, severe windstorm; major tree damage and considerable minor property damage. 8:20 p.m., 5 miles west of McPherson, funnel aloft reported with later sightings 3 miles northeast of McPherson and near Lindsborg, McPherson County. 8:30 p.m., Kingman, Kingman County, high winds caused much tree, but only minor property damage. Unconfirmed report of tornado sighted west of Kingman at 8:25 p.m., moving eastward. 8:30 p.m., Attica, Harper County, tornado reported, but apparently only minor wind damage. 8:45 p.m., 5 miles northeast of Hutchinson, Reno County, funnel aloft moving northeast, very definite roar. 8:56 p.m., strip of tornadic winds moved from northwest to southeast through Anthony with heavy damage extending to Bluff City, Harper County; many commercial buildings and dwellings badly damaged and there was considerable damage in rural areas; estimated loss $225,000. 9:15-10:30 p.m., Harvey, Sedgwick, Sumner, Butler, and Cowley Counties; at least 11 reports of funnels aloft with some wind damage. 9:54 p.m., Emporia, Lyon County, heavy wind with gusts up to 58 m.p.h., caused tree and scattered building damage. 10 p.m., Hamilton, Greenwood County, severe wind and rain. 10:20 p.m., severe wind damage in and around Howard, Elk County, possible tornado. About 11 p.m., Neodesha, Wilson County, severe wind and rain. 10:45 p.m., Thayer, Neosho County, violent wind and rain. 11 p.m., 8 miles southwest of Louisburg, Miami County, tree and building damage.
Kansas, east-central portion	27	6:30 p.m.	20		0	0	25,000		Tornado, wind, and hail	Tornado at Bush City about 6:30 p.m., and south of Osawatomie at 7:30 p.m., continued aloft near Spring Hill and Gardner. Also wind damage at Lyndon, Paola, Hillsdale, and Gardner with heavy hail at Wagstaff. Storm moved northeastward.
Manhattan (15 miles north of), Riley County, Kans.	27	8:40 p.m.			0	0	0	0	Tornado (suspected)	Tornado reportedly visible 15 miles north of Manhattan; moved eastward.
Alta Vista (15 miles southeast of), Wabaunsee County, Kans.	27	9 p.m.			0	0	0	0	Tornado (suspected)	

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Harrisonville (7 miles northwest of), Cass County, Mo.	27	9 p.m.			0	0	$ Several thousand	$0	Tornado (suspected)	Barn and outbuildings destroyed.
Medford (near), Grant County, Okla.	27	9 p.m.	Short	400	0	0	Minor	Minor	Tornado, wind, and rain	Deputy sheriff of Grant County saw funnel cloud aloft; a few minutes later he saw it touch ground about 15 miles northwest of Medford. Storm moved eastward.
Blackwell and Braman (near), Kay County, Okla.	27	9-10 p.m.			0	0	Minor	Minor	Tornado (suspected), wind, and rain	No funnel cloud reported. Storm moved northeastward.
Grand River Dam, Mayes County, Okla.	27	9:15 p.m.			1		Minor	Minor	Wind	Wind tore lake boat dock loose and several people that were on it swept into Grand Lake. Boy drowned. Storm moved northeastward.
Grant (eastern portion) and Kay (northwestern portion) Counties, Okla.	27	9:15-10:25 p.m.	20	300	0	0	Minor	Minor	Tornado, wind, and rain	Tornado moved northeastward.
Tonkawa (near), Kay County, Okla.	27	10 p.m.			0	0	0	0	Tornado (suspected), wind, rain, and hail	Storm moved northeastward.
Cushing, Payne County, Okla.	27	Early night			0	0	0	0	Tornadoes, wind, and rain	Several funnel clouds aloft observed; moved northeastward.
Grundy, Harrison County, Mo.	27	Night					Considerable		Electrical	Large barn, containing baled hay, burned to ground.
Camden and Orrick, Lafayette County, Mo.	27	Night					Slight	Heavy	Hail	Some stones as large as hens' eggs.
Philadelphia (east of), Marion County, Mo.	27	Night							Hail and rain	Crops on 1 farm completely ruined.
Ponca City, Kay County, Okla.	27	Late night					15,000	Minor	Wind, rain, and hail	Many farm buildings damaged. Storm moved northeastward.
Charleston, Coles County, Ill.	27	Midnight					10,000		Wind	Severe local thunderstorm did damage in City.
Calcasieu to Melden, Rapides Parish, La.	27						Slight	15,000	Hail, wind, and rain	Hailstones reported 1 1/2 to 1 3/4 inches in diameter. Storm moved eastward.
Apex (near), Lincoln County, Mo.	27				0	0	Slight	Slight	Tornado (suspected)	Damage confined to wooded area.
	27									Minor storms also reported in Suwannee County, Fla.; at Sioux City, Iowa; at Cumberland, Md.; and near Belle, Pilot Grove Grove, and Clear Creek, Mo.
	27-28									Minor storm reported in Henry and St. Clair Counties, Mo.
Illinois, southern third	28	A.m.			1		300,000	75,000	Wind	Damage particularly heavy around Paris where major damage to parked aircraft.
Spring Valley, Bureau County, Ill.	28	12:35 a.m.					75,000		Electrical	Lightning, accompanying local thunderstorm, set fire to lumber yard.
Hess Station (near), Osage County, Okla.	28	1:30 a.m.			0	0	Minor	Minor	Tornado (suspected), wind, and rain	Storm moved northeastward.
Elsie (3 miles west of), Clinton County, Mich.	28	4 a.m.			0	0	5,000	0	Tornado (suspected)	Barn destroyed, wreckage scattered in semi-circular pattern; roof completely turned around and deposited on wreckage; boards from barn flung into nearby buildings. No actual witnesses to storm.
Indiana, west-central to northeastern portions	28	8:15-11:30 a.m.	150	*15	0	3	600,000	0	Tornado, wind, rain, and electrical	First storm damage about 8:15 a.m., in Vermillion County. Wind damage progressed thereafter during re- remainder of morning in northeasterly direction

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Indiana (Cont'd)										in Parke, Montgomery, Boone, Clinton, Howard, Miami, Wabash, Grant, Whitley, Allen, and DeKalb Counties. Damage occurred in DeKalb County at about 11:30 a.m., and in Montgomery, Boone, and Clinton Counties between about 8:30 and 9:30 a.m. Greatest damage in Montgomery, Boone, and Clinton Counties where many barns and thousands of trees blown down. Most damage within belt about [illegible] miles wide with narrow path of more severe and more extensive damage. Residents of Converse (in Miami County), which was heavily damaged, said that approaching storm "sounded like a freight train coming down the street," and many witnesses testified that storm had "shrieking or roaring" sound. No funnel reported, but witnesses reported watching buildings being involved in whirling dust and rain, shiver from force of violent wind, and collapse to ground. In Allen County, path of most destructive damage was only about 100 feet wide; roof of 1 building gone, wall having fallen outward from direction from which storm had come. 4 miles to northeast among other damage a lightning rod was driven through door of machine shed and piece of siding driven through siding of another building.
Kalamazoo and Eaton Counties, Mich.	28	9-10:20 a.m.	65	100	0	1	$150,000	$10,000	Tornado, wind, rain, and hail	Tornado apparently developed near Schoolcraft, lifted and touched down again near Climax, lifted again and then touched down near Bellevue, and continued northeastward to just east of Grand Ledge about 10:20 a.m. Storm struck in rural areas, destroying a few buildings and damaging several others. Many trees destroyed and utility lines downed. Man injured seriously near Charlotte in Eaton County.
Whitewater (7 miles north of), Walworth County, Wis.	28	1:10 p.m.			1				Wind	Man drowned when sudden wind squall swamped boat, 3 others rescued.
Janesville (7 miles northwest of), Rock County, Wis.	28	1:15 p.m.	4	100	0	0	20,000	0	Tornado (suspected), wind, rain, hail, and electrical	Machine shed destroyed, end of barn, and all windows of farm house wrecked. Storm moved eastward.
Clintonville (3 miles west of), Waupaca County, Wis.	28	3 p.m.	3	75	0	4	20,000		Tornado, wind, rain, and electrical	Tornado moving northward caused damage on 4 farms in row; funnel seen. First farmstead damaged most, as barn destroyed; other farm buildings heavily damaged, and trees uprooted; 75 beehives destroyed; wreckage found a mile away. On next farm, mile away, shed and chicken coop downed. On third farm silo, henhouse, and garage leveled. Fourth farmstead had corncrib torn to bits.
Long Lake, Kalamazoo County, Mich.	28	6 p.m.			0	0	3,000	0	Tornado and rain	Storm struck at Long Lake, about 8 miles south-southeast of Kalamazoo. According to newspaper account witness saw funnel. 2 huge trees felled and other trees damaged, 2 buildings and 2 cars damaged, and utility lines downed. Length of path unknown, but apparently very short.
Kentucky, most of State	28					2	60,000	2,000	Wind, rain, and electrical	Winds in thunderstorm moving eastward caused damage to buildings, cars, and electric and telephone lines. Trees toppled. Many streets flooded. Plate-glass windows were damaged. TV antennas were blown down. In the western part of the State, there was damage to small grains.
	28									Minor storms also reported at Russellville, Ala.; in Pueblo County, Colo.; at Princeton, Ind.; in southern Iowa; at Sedalia and in Mexico area, Mo.; and at Milwaukee and near Evansville, Wis.
Pennsylvania	28-29								Wind, rain, hail, and electrical	Cold front moved into western Pennsylvania on 28th and through eastern sections on 29th accompanied by severe thunderstorms. In western counties on 28th trees broken and uprooted, power and communication lines damaged as result of gusty winds. Lightning damaged home in Blairsville and fired barn and an apartment in Bradford with damage listed at $8,200. Runoff from heavy rains washed some fields near Waynesburg. In eastern counties on 29th wind damaged trees and power and communication lines in scattered areas. In Franklin County lightning fired and destroyed a barn, hail damaged fruit, and heavy runoff flooded buildings in Chambersburg, with damage listed in the thousands. Near Hanover barn unroofed by wind and 2 cows killed, damage $12,000. Another barn burned when struck by lightning near York, damage $5,000. Near Lebanon large chicken house unroofed and several sheds destroyed by wind. In Allentown large garage-type building housing floral concern damaged when wind blew out wall, damage $25,000. Several display windows broken by wind

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Pennsylvania (cont'd)										in Allentown. Barn and house trailer damaged by wind near Williamsport. Lightning started minor fires in at least 4 homes in Philadelphia area. Near Honesdale 11 cows killed when struck by lightning. Storm moved eastward.
Virginia	29	Midafternoon	160						Wind, rain, hail, and electrical	Roughly from Roanoke and Lynchburg through Charlottesville, Gordonsville, and Culpeper into Arlington and also in Clarke County. Scattered thunderstorms, brief but severe, caused extensive, minor wind damage. Storm moved northeastward.
Amsterdam, Montgomery County, N.Y.	29	5 p.m.	2	100			$50,000		Wind	High winds, presumably thunderstorm squall, uprooted trees, damaged roofs, and tangled utility lines disrupting services.
Baltimore, Md.	29	5-7 p.m.				1	9,000		Wind	Miscellaneous damage.
New England, central portion	29	Late afternoon and evening				8			Electrical, wind, rain, and hail	Violent electrical storms occurred locally in areas. Major damage caused by disruption of powerlines and phone service. Local washouts reported and flooded section of track in Somerville, Mass., caused derailment of freight train. Damaging wind squalls widely reported, with greatest violence in Berkshires, southern Vermont, and southern Maine. At Lisbon, Maine, hailstones and violent wind squalls caused considerable damage. 4 children injured but not seriously when struck by lightning in Pittsfield, Mass., area.
Greene, Columbia, Orange, Sullivan, and Dutchess Counties, N. Y.	29	Early evening					°500,000		Wind, hail, electrical, and rain	A series of thunderstorms accompanied by high winds, and localized hail incurred sizable losses. In Fallsburgh and Monticello, a hailstorm with stones ranging 1 1/4 to 2 inches in diameter covered area about 500 yards in width and 5 miles in length. Greenhouse glass badly broken, automobile tops severely dented, roofs on buildings damaged, and some windows broken. Wind whipped up muckland at Durlandville and Florida with considerable damage to onion and celery crops. In Port Jervis, numerous trees uprooted with damage to buildings, automobiles, and utility lines. Similiar damage reported from Stanfordville-Bangall area in Dutchess County. At Athens, in Greene County, hailstones as large as walnuts reported while hailstones size of golf balls broke $2,200 worth of glass in greenhouse in Ghent, Columbia County.
	29									Minor storms also reported at Raiford, Fla.; at Frederick, Hagerstown, Waldorf, Greenbelt, and Annapolis, Md.; at Washington, D.C.; at Wilmington, Del.; in Watauga, Hoke, Pender, Cumberland, Lee, and Wake Counties, N.C.; and in Richland and Kershaw Counties, S.C.
Utah	30	Much of day				1	Slight		Wind and dust	Wind and dust plagued many areas. 1 girl injured when hit by flying debris from barn which was blown over at Eureka. A few other buildings sustained light damage in scattered areas. A few telephone poles downed in northwestern Utah causing temporary interruption of service at Grantsville. Winds up to 40 to 50 m.p.h., in gusts.
Jacksonville (near), Onslow County, N.C.	30	2:30 p.m.	**100	25	0	0	2,000	0	Tornado	Small funnel cloud touched lightly in residential area, causing near-panic briefly among military families living there, but only minor damage.
South Bay (5 miles south of), Fla.	30	4:45 p.m.			0	0	0	0	Tornado (suspected)	Reported by aircraft pilot, believed to have touched ground.
Woods area, Stevens County, Kans.	30	8:30 p.m.			0	0			Tornado (suspected) and wind	Rural damages in Woods, Goodluck, and Fairview districts. Storm followed by brief torrential rainfall.
Wink, Winkler County, Tex.	30	9:23 p.m.	2	600	0	0	50,000	0	Tornado, rain, hail, and electrical	Tornado moved southeastward. Buildings collapsed, 25 houses damaged, garages and outbuildings overturned, trees uprooted, and firehouse unroofed.
Clinton, Custer County, Okla.	30	Midnight	4	300	0	0	1,500	Minor	Tornado (suspected), wind, and rain	Storm moved eastward.
Butler (west of), Bates County, Mo.	30						Considerable	Slight	Hail	
	30									Minor storms also reported at Lake Wales and Daytona Beach, Fla.; and at Amarillo, Tex.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Meteor Crater, Ariz.	31	A.m.	15	*40			$25,000		Wind	High winds accompanied passage of cold front. Storm moved northeastward.
Bevier, Macon County, Mo.	31	Early morning					50,000		Electrical	Burlington Railroad Depot struck by lightning and burned down.
Dardenne and O'Fallon areas, St. Charles County, Mo.	31	Afternoon				1	Several thousand	Slight	Wind	1 man hurt when small concrete block building collapsed. Many barns and farm outbuildings damaged.
Central and southern New Hampshire and central and northeastern Massachusetts	31	Late afternoon							Rain and electrical	Rain fell at excessive rate for periods ranging up to 1 hour in parts of area. Flooded streets and basements, caused numerous washouts on some New Hampshire roadways, clogged main thoroughfares, and caused many motor vehicles to stall.
	31									Minor storm also reported at Fort Lauderdale, Fla.

* Miles instead of yards.
** Yards instead of miles.
° Crop damage included with property damage.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

MAY 1955

Flash floods occurred during May in the East Gulf of Mexico drainage and in the Ohio, Red, and Arkansas River Basins. The flash flood in the Red Basin at Waurika, Okla., exceeded the record flood of 1951. Major flooding occurred in the Arkansas Basin on the Purgatoire River at Trinidad, Colo. Near-record floods occurred on the Cimarron River at Perkins, Okla., and on the Chikaskia River at Blackwell, Okla. Damages from these floods will amount to several million dollars.

Flooding reported elsewhere was mostly light. No flooding was reported along either the Atlantic or Pacific Coast drainages.

EAST GULF OF MEXICO DRAINAGE

Excessive rains in the headwaters of the Choctawhatchee River on May 22 caused flooding in the reach from below Geneva, Ala., to about 10 miles below Caryville, Fla. The heaviest rainfall reported was 12.62 inches at Geneva, Ala., on the 22d between the hours of 10:00 a.m. and 3:00 p.m.

Small streams and creeks in the Geneva area were unable to carry off the excessive water fast enough and a flash flood occurred. Water was 3 to 4 feet deep at some places in the city on the afternoon of the 22d, and water was 6 inches to 1 foot deep in over 50 percent of the business section. The total damages in southeast Alabama caused by this flash flood were estimated at nearly one-half million dollars.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Streams in the Upper Mississippi Basin continued at low stages throughout the month. The mean monthly stage of the Mississippi River at St. Paul, Minn., was 3.2 feet, which is the lowest mean stage at this point since the Corps of Engineers Lock and Dam at Hastings began operation on May 11, 1935. The mean monthly stage of the Minnesota River at Mankato, Minn., during the month was 4.1 feet, which is the lowest mean monthly stage at this point since 1940 (3.9 feet).

Missouri Basin.--Local overflows occurred on the Blue River and on the lower Marais des Cygnes River downstream from Osawatomie, Kans., between the 28th and 30th. Crest stages were less than a foot above bankfull except for rises of 3.1 feet above bankfull on the Marais des Cygnes at La Cygne, Kans., on the 29th, and 5.4 feet above bankfull stage at Kansas City, Mo., on the 28th. Stages of about one-half bankfull were reached on the upper Marais des Cygnes River on the 27th-28th. Local overflows occurred on the Marmaton River near Fort Scott, Kans., on the 12th and on the North Fork of the Republican at Benkelman, Nebr., on the 17th and 18th. The flooding between the 28th and 30th was due to general rains from near 1 to locally over 2 inches on May 26. Similar amounts were reported again on the 28th. Locally heavy rains of 3 to 4 inches caused the flooding on the Marmaton River.

Record low-water stages on the Kansas River at Wamego, Kans., were equalled May 25 and 28 with readings of -0.45 foot. The previous such occurrence was on August 1, 1954.

Ohio Basin.--Flash floods occurred on both sides of the Ohio River at and near Ashland, Ky., and Ironton, Ohio, on the 13th. Rainfall at Dam 29, Ashland, was 3.21 inches for the 24 hours ending at 7:00 a.m. on May 14 with most of it occurring within 35 minutes at about 8:00 p.m. on the 13th.

Heavy thundershowers (1.8 inches) between 3:30 p.m. and 5:00 p.m. on the 13th caused local flooding on small streams near Falmouth, Ky., on the Licking River drainage. Burns Branch, Kincaid Creek, and Grassy Creek, overflowed temporarily, inundating roads and fields. A wooden bridge was washed out on the Portland Greenwood road. Considerable damage to seeded fields, tobacco beds, and gardens was reported.

At Chickamauga, Tenn., heavy local rain on May 16 caused the South Chickamauga Creek to rise to a stage of 11.85 feet, 1.85 feet above flood stage. No damages resulted from this high water.

White Basin.--In the White River Basin, lowlands along the Cache River at Patterson, Ark., were flooded with minor damage on several days during the first part of the month and again toward the close of the month.

Arkansas Basin.--Flooding in the Arkansas Basin above John Martin Dam during the period May 18-23 was due to heavy precipitation from the 17th to 19th. Most of the rainfall during this period occurred on the 18th. The rainfall was heaviest near the mountains and along the east slope of the mountains, and in some of the higher elevations large snowfall amounts were unofficially reported. Some unofficial figures ran as high as 6.5 inches of rain in 24 hours in the vicinity of Beulah, Colo., with 3 feet of new snow in the San Isabel Lake area. The heaviest precipitation was from Pueblo, Colo., southward to a little south of Trinidad. At Pueblo the rainfall was the greatest in a similar period since April 18-20, 1942. There was no flooding of consequence at Pueblo or upstream from Pueblo on the Arkansas. Much of the bottom lands and lowlands below Pueblo were flooded, and the flooding was more severe downstream at Rocky Ford, La Junta, and Las Animas, with the latter city the hardest hit.

Flooding was severe on the Purgatoire River at Trinidad, Colo., where the flood was practically of a flash nature. The north portion of the city was completely isolated from the south portion for a period of several hours, and utilities were affected severely, at least temporarily. Railroad yards were severely damaged and train traffic interrupted for a considerable period. Highways were also severely damaged and some closed for several days. The flood was the worst at Trinidad, Colo., since the flood of 1942, and closely approached or possibly slightly exceeded that flood. Major flooding of lowlands occurred all along the Purgatoire River to the Junction with the Arkansas River below Las Animas. Stages were also high with lowland flooding along the St. Charles and Huerfano Rivers, and other smaller tributaries. Damages were major to property, highways, and bridges in the affected areas, as well as to inundated farmlands and irrigation ditches, many of which were washed out. One death is reported to have occurred during the flood at Trinidad, but reports indicate it was not directly due to the flood. Another death at Trinidad was reported after the flood was beginning to subside, when a driver drove his car through a street barricade and into the Purgatoire River where a bridge had been washed out.

There were four significant rises on the Cimarron River at Perkins, Okla., during the month. Crests above flood stage occurred on the 11th, 21st, 25th, and 27th. The 14.8-foot crest on the

1st was exceeded only by the 15.20-foot reading f May 19, 1949, and a high water mark of 17 feet n October 5, 1926. At Guthrie, Okla., the crest f 13.60 feet on May 21 exceeded the prior maxi-um stage of record of 12.98 feet on May 20, 1949. owever, a previous high water mark of 16.5 feet as recorded at Guthrie during the year 1935. ery little damage resulted from this flood.

The flood on the Chikaskia River at Blackwell, kla., on the 27th approached within 0.4 foot f the July 1951 flood. The 25.6-foot crest is he fourth highest of modern records. This flood as due to 2.45 inches of rainfall on the 26th. amage from this flood would have been severe ad it not been for the heavy damage caused by he tornado that preceded the flood.

Extremely heavy and excessive rains occurred in sections of central and east-central Arkansas n the night of May 26-27. It was the greatest -hourly rainfall of record in the Little Rock rea where 3 inches was measured in 1 hour; 4.6 inches in 2 hours; and 7.7 inches in 6 hours. t Keo, Ark., 9.45 inches of rain was measured. hese torrential rains caused some overflows on the 27th and 28th along the Saline River at Benton, Ark., and on the Ouachita River at Arkadelphia, Ark.

Heavy rains (6.6 inches) in the Cow and Beaver Creek Basins on the afternoon and evening of the 18th and the morning of the 19th caused a severe flash flood at Waurika, Okla., on the 19th. Antecedent conditions were favorable for heavy runoff as the precipitation during the three previous days averaged 2.25 inches. According to reports, the water at Waurika on the morning of the 19th was within 1 inch of the disastrous flood of 1951 and was still rising. Additional rain fell during the 19th and 20th, and at 8:30 a.m. on the 20th the water was 7 inches above the record flood of 1951 and still rising. The exact crest was not obtained but it is believed that the stage rose another inch or two and the crest occurred about 3 p.m. on the 20th. There were no persons killed or injured in the flood but one home was destroyed and 375 were damaged. In addition to these, 20 other buildings were destroyed and 145 damaged. The rainfall amounts on the 19th and 20th that caused this record flood are given in the following table:

TOTAL RAINFALL (inches)
(Cow and Beaver Creek Basins)
24 Hours Ending

Station	7 a.m., 19th	7 a.m., 20th	Storm Total
Waurika, Okla.	4.30	3.76	8.06
Baird, Okla.	6.15	3.42	9.57
Comanche, Okla.	9.40	3.52	12.92
Averages	6.62	3.56	10.18

Heavy rains also occurred in the Washita (Oklahoma) Basin, but only minor overflow occurred.

Lower Mississippi Basin.--Flooding continued in the lower reaches of the Yazoo River during the first week of May. The low sections around azoo City, Miss., were under water; also, crop and pasture lands below the city were inundated.

Atchafalaya Basin.--A strong on-shore wind increased the tide on the lower Atchafalaya on ay 20, raising the stage to 7.1 feet. The flood stage of 7.0 feet was equalled or exceeded between the hours of 5:50 a.m. and 8:20 a.m. No damage resulted.

WEST GULF OF MEXICO DRAINAGE

Sharp rises occurred on the Brazos River at ainbow and Waco, Tex., on the 19th due to excessive rains ranging from 4 to 10 inches on the watersheds of the Leon and North Bosque Rivers. Floods were prevented by Whitney Dam, Belton Dam, and Lake Waco. Flooding occurred in Eastland, but it is believed that most damage was from rain and erosion rather than overflow. Flooding also occurred near Hale Center, in the far upper reaches of the Brazos watershed.

Heavy rains, ranging from 3 to 5 inches fell over most of the watersheds of the Lavaca and Navidad Rivers on May 17-19, and caused moderate rises in both rivers to slightly above flood stages at Edna and Ganado, Tex. The crest at both places was about 2 feet above flood stage and no appreciable damage occurred on either river, as most of the land flooded was grazing land along the river bottoms.

Colorado Basin.--A local flash flood occurred on May 25 at Grand Valley, Colo., near the confluence of Parachute Creek and the Colorado River. Reports indicate there were a few flooded basements and some road damage.

FLOOD STAGE DATA

Table 5

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			*Ft.*	
EAST GULF OF MEXICO DRAINAGE					
Choctawhatchee: Caryville, Fla.	12	24	26	12.9	25
MISSISSIPPI SYSTEM Missouri Basin					
Blue: Kansas City, Mo.	21	28	28	26.4	28
Charitan: Novinger, Mo.	20	13	13	22.5	13
Arikaree: Haigler, Neb.		17	17	7.5	17
Republican, No. Fork: Benkelman, Neb.	5	17	18	5.8	18
Marmaton: Fort Scott, Kans.	30	12	12	32.2	12
Marais des Cygnes: Osawatomie, Kans.	28	28	28	28.7	28
LaCygne, Kans.	25	28	30	28.1	29
Trading Post, Kans.	24	29	30	24.2	29
Ohio Basin					
So. Chickamauga Creek: Chickamauga, Tenn.	10	16	16	11.85	16
White Basin					
Cache: Patterson, Ark.	7	1 19	5 31	7.8 8.6	2 28
Arkansas Basin					
Huerfano: Undercliffe, Colo.		19	20	8	19
Purgatoire: Trinidad, Colo.		18	20	13	19
Higbee, Colo.		19	21	17.7	20
Las Animas, Colo		20	21	15	20
MISSISSIPPI SYSTEM (Cont'd.) Arkansas Basin (Cont'd.)					
Chikaskia: Blackwell, Okla.	22	27	27	25.6	27
Cimarron: Perkins, Okla.	11	11 19 25 26	11 23 26 28	11.1 14.8 11.15 13.8	11 21 25 27
Arkansas: Rocky Ford, Colo.		19	21		20
La Junta, Colo.		19	21	13.85	20
Las Animas, Colo.		20	21	14.8	20
Syracuse, Kans.	7	20	20	7.9	20
Garden City, Kans.	7	21	21	7.2	21
Red Basin					
Saline: Benton, Ark.	20	27	27	23.1	27
Ouachita: Arkadelphia, Ark.	17	27	28	19.2	27
Lower Mississippi Basin					
Yazoo: Yazoo City, Miss.	29	1	6	30.5	1
Atchafalaya Basin					
Atchafalaya: Morgan City, La.	7	20	20	7.1	20
WEST GULF OF MEXICO DRAINAGE					
Navidad: Ganado, Tex.	21	20	21	**22.5	20
Lavaca: Edna, Tex.	21	20	21	22.9	20

* Provisional

** Highest stage reported but not necessarily the crest

RADIOSONDE DATA

Average monthly values

Table 20

MAY 1955

Standard pressure surface (mb.)	ALBUQUERQUE, N. MEX. (836 MB.)				ANCHORAGE, ALASKA (1004 MB.)				ANNETTE, ALASKA (1014 MB.)				ATLANTA, GA. (981 MB.)				BARROW, ALASKA (1014 MB.)				BETHEL, ALASKA (1002 MB.)				BISMARCK, N. DAK. (951 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,619	18.3	29	31	42	9.3	47	31	37	8.5	74	31	309	21.3	70	31	8	- 6.9	82	31	4	7.0	69	31	505	15.6	54
1,000--	31	43			31	59		46	31	148	7.6	71	31	139			31	119	- 8.1	83	31	18		70	31	72		
950----	31	501			31	481	5.4	49	31	568	4.3	72	31	588	21.9	57	31	523	- 7.5	80	31	440	3.4	69	31	516		48
900----	31	976			31	920	1.6	56	31	1,005	1.0	74	31	1,055	18.9	57	31	939	- 6.2	64	31	872	- .3	73	31	972	15.0	49
850----	31	1,471			31	1,377	- 2.4	64	31	1,463	- 2.1	75	30	1,544	15.2	58	31	1,385	- 7.3	54	31	1,326	- 3.7	76	31	1,453	11.7	52
800----	31	1,990	16.1	28	31	1,855	- 6.3	71	31	1,941	- 5.3	72	30	2,055	11.5	56	31	1,856	- 8.9	54	31	1,801	- 7.0	76	31	1,957	8.0	54
750----	31	2,538	11.7	32	31	2,359	- 9.7	74	31	2,451	- 8.3	68	30	2,596	8.1	50	31	2,362	-11.1	48	31	2,307	-10.1	74	31	2,492	4.5	54
700----	31	3,106	6.7	38	31	2,886	-13.1	74	31	2,978	-11.5	63	30	3,157	4.4	44	31	2,880	-13.8	47	31	2,830	-13.1	70	31	3,044	.9	50
650----	31	3,711	1.4	45	31	3,451	-16.6	71	30	3,550	-14.8	60	30	3,761	.9	37	31	3,451	-17.1	43	31	3,400	-16.2	63	31	3,640	- 2.9	49
600----	31	4,348	- 3.9	51	30	4,045	-19.8	67	30	4,144	-18.5	56	30	4,396	- 2.5	31	31	4,035	-20.6	39	31	3,989	-19.6	57	31	4,266	- 6.5	43
550----	31	5,027	- 9.3	54	30	4,689	-23.4	62	30	4,792	-22.4	52	30	5,080	- 6.4		31	4,680	-24.8	36	31	4,632	-23.5	54	30	4,944	-11.0	42
500----	31	5,757	-14.6	52	30	5,377	-27.7	58	30	5,481	-27.0	50	30	5,820	-11.5		31	5,360	-29.2		31	5,320	-28.0	51	30	5,668	-16.2	41
450----	31	6,554	-20.3	45	30	6,131	-32.6	54	30	6,237	-32.3	49	30	6,630	-17.2		31	6,115	-34.4		31	6,075	-33.1	48	30	6,462	-21.5	37
400----	31	7,408	-26.7	41	30	6,946	-38.5		30	7,053	-38.1		30	7,492	-23.6		31	6,918	-40.2		30	6,888	-38.7	45	30	7,309	-28.1	37
350----	31	8,357	-33.9		30	7,849	-45.3		30	7,959	-44.4		30	8,453	-31.3		31	7,815	-47.0		30	7,791	-45.5		30	8,251	-35.6	37
300----	31	9,418	-41.9		30	8,862	-50.9		30	8,979	-49.3		30	9,527	-39.6		31	8,822	-52.8		28	8,802	-51.0		30	9,305	-44.0	
250----	31	10,629	-50.2		30	10,043	-51.3		28	10,163	-50.1		30	10,749	-49.2		31	9,995	-51.7		28	9,981	-51.7		30	10,503	-52.7	
200----	31	12,060	-56.9		29	11,508	-47.3		28	11,622	-49.3		30	12,181	-59.2		31	11,459	-46.7		28	11,445	-47.2		29	11,917	-58.0	
175----	31	12,902	-58.0		29	12,391	-47.0		28	12,496	-49.3		27	13,013	-62.0		31	12,344	-46.6		28	12,328	-47.1		29	12,759	-57.1	
150----	31	13,871	-59.0		29	13,410	-47.2		28	13,506	-49.5		25	13,959	-62.8		31	13,366	-46.8		28	13,346	-47.5		29	13,737	-55.9	
125----	31	15,008	-60.8		28	14,613	-48.3		27	14,698	-50.6		23	15,079	-63.2		31	14,571	-47.6		28	14,547	-48.5		29	14,894	-56.9	
100----	27	16,393	-62.8		27	16,082	-49.0		26	16,146	-51.8		22	16,450	-64.3		31	16,041	-48.5		28	16,012	-49.2		26	16,306	-57.3	
80-----	24	17,765	-62.5		24	17,538	-49.3		25	17,588	-52.5		18	17,802	-64.4		30	17,508	-48.8		28	17,473	-49.5		24	17,709	-58.4	
60-----	21	19,542	-60.6		22	19,430	-50.0		24	19,447	-53.0		14	19,563	-62.1		28	19,393	-49.3		27	19,354	-50.0		20	19,518	-59.0	
50-----	20	20,683	-58.3		22	20,620	-50.3		20	20,611	-53.5		13	20,704	-58.9		26	20,582	-49.1		27	20,543	-50.4		17	20,653	-58.0	
40-----	17	22,104	-55.9		20	22,067	-50.5		13	22,067	-53.1		11	22,111	-55.3		22	22,052	-48.6		26	22,001	-50.8		13	22,060	-56.5	
30-----	[illegible]	23,960	-52.6		10	23,972	-50.3						8	23,966	-51.4		5	23,900	-48.3		23	23,871	-50.8		9	23,900	-54.8	
20-----																					6	26,505	-51.3					

Standard pressure surface (mb.)	BOISE, IDAHO (914 MB.)				BROWNSVILLE, TEX. (1011 MB.)				BUFFALO, N. Y. (993 MB.)				BURRWOOD, LA. (1015 MB.)				CAMAGUEY, CUBA (1001 MB.)				CARIBOU, ME. (990 MB.)				CHARLESTON, S. C. (1015 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	868	14.0	52	31	7	25.4	83	31	182	13.0	79	31	3	23.9	85	30	122	22.0	94	31	191	9.0	77	31	13	20.4	85
1,000--	31	97			31	100	24.8	83	31	123			31	135	23.8	79	30	133	22.0	93	31	103			31	145	21.6	77
950----	31	540			31	556	22.8	70	31	557	13.7	64	31	584	21.1	71	30	584	21.5	77	31	534	9.5	64	31	595	20.7	62
900----	31	997	14.5	41	31	1,022	22.0	50	31	1,010	11.2	62	31	1,049	18.7	61	30	1,048	19.3	65	31	977	7.4	64	31	1,056	18.1	61
850----	31	1,477	11.0	40	31	1,517	20.1	39	31	1,485	8.5	62	31	1,538	15.8	48	30	1,538	16.3	64	31	1,445	4.4	67	31	1,543	14.8	62
800----	31	1,979	7.0	43	31	2,037	17.6	30	31	1,984	5.7	60	31	2,050	13.2	38	30	2,051	13.0	64	31	1,936	1.5	69	31	2,053	11.1	61
750----	31	2,510	2.8	46	31	2,588	14.5	31	31	2,515	2.6	58	31	2,596	10.1	34	30	2,598	9.9	56	31	2,457	- 1.5	68	31	2,599	7.4	54
700----	31	3,060	- 1.4	48	31	3,164	10.7	28	31	3,064	- .8	53	31	3,160	6.6	34	30	3,161	6.6	46	31	3,000	- 4.3	66	31	3,154	3.8	45
650----	31	3,648	- 5.4	50	31	3,778	6.3	31	31	3,656	- 4.0	49	30	3,767	2.7	33	30	3,774	3.6	35	31	3,585	- 7.5	59	31	3,760	.1	44
600----	31	4,270	- 9.4	52	30	4,426	1.4	36	31	4,280	- 7.4	45	30	4,407	- 1.3	33	29	4,412	.0		31	4,199	-11.0	52	31	4,389	- 3.7	42
550----	31	4,942	-13.7	49	30	5,120	- 3.9	38	31	4,954	-11.8	42	29	5,094	- 5.6		29	5,104	- 4.5		31	4,863	-15.0	47	31	5,076	- 7.8	38
500----	31	5,655	-18.9	46	30	5,865	- 8.8		31	5,674	-16.6	38	29	5,838	-10.4	29	29	5,846	- 9.3		31	5,576	-19.8	45	31	5,806	-12.4	36
450----	31	6,441	-24.6	42	30	6,683	-14.6		31	6,466	-22.2	38	29	6,646	-15.9	30	29	6,665	-14.5		31	6,354	-25.5	43	31	6,616	-17.8	38
400----	31	7,279	-30.6	41	30	7,555	-21.2		30	7,317	-28.4	41	29	7,519	-22.1		29	7,537	-20.3		31	7,193	-31.6	40	31	7,474	-23.7	40
350----	31	8,213	-37.6		30	8,526	-28.5		30	8,259	-35.6		28	8,485	-29.8		29	8,513	-27.1		31	8,124	-38.3		31	8,435	-31.0	
300----	31	9,260	-44.8		29	9,611	-36.8		29	9,318	-43.4		28	9,564	-38.4		29	9,605	-35.3		31	9,169	-44.5		31	9,508	-39.5	
250----	31	10,460	-51.5		29	10,846	-46.7		28	10,529	-52.0		27	10,790	-48.1		28	10,850	-44.4		31	10,371	-50.4		30	10,738	-49.4	
200----	31	11,892	-55.4		28	12,294	-57.3		27	11,948	-59.0		27	12,225	-58.3		26	12,310	-54.5		31	11,814	-53.6		30	12,167	-59.6	
175----	31	12,743	-55.5		27	13,129	-62.4		26	12,776	-59.2		27	13,057	-61.9		22	13,157	-59.4		31	12,671	-54.1		27	12,983	-62.7	
150----	31	13,725	-55.3		26	14,069	-66.8		23	13,740	-59.1		27	14,006	-63.9		13	14,105	-64.1		31	13,659	-53.9		27	13,931	-63.0	
125----	31	14,885	-56.2		22	15,164	-69.6		20	14,872	-58.9		26	15,118	-66.8		7	15,231	-68.0		31	14,826	-55.4		27	15,052	-63.0	
100----	29	16,300	-57.0		16	16,490	-71.5		17	16,255	-59.4		25	16,459	-68.3						28	16,229	-56.5		26	16,420	-64.7	
80-----	27	17,711	-58.1		14	17,808	-71.3		9	17,649	-60.1		22	17,793	-68.4						25	17,641	-57.2		26	17,780	-64.9	
60-----	26	19,519	-58.2		10	19,532	-65.6		5	19,489	-60.5		18	19,530	-64.9						19	19,468	-57.2		22	19,547	-61.8	
50-----	21	20,667	-57.1		10	20,650	-62.3						17	20,647	-62.0						19	20,622	-56.3		21	20,685	-59.2	
40-----	17	22,090	-55.5		10	22,042	-57.8						15	22,031	-59.2						15	22,039	-54.2		17	22,087	-56.8	
30-----	9	23,948	-52.9										12	23,846	-54.8						10	23,894	-52.5		12	23,918	-52.2	

Standard pressure surface (mb.)	COLUMBIA, MO. (985 MB.)				DODGE CITY, KANS. (922 MB.)				El PASO, TEX. (879 MB.)				ELY, NEV. (807 MB.)				FAIRBANKS, ALASKA (989 MB.)				FT. HUACHUCA, ARIZ. (855 MB.)				GLASGOW, MONT. (936 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	238	18.4	71	31	792	17.4	66	31	1,195	23.5	21	30	1,908	11.6	37	31	135	12.2	45	29	1,428	20.5	23	31	648	13.1	59
1,000--	31	111			31	86			31	46			30	66			31	42			29	51			31	87		
950----	31	557	19.5	58	31	530			31	509			30	518			31	469	9.0	42	29	513			31	528		
900----	31	1,016	16.5	59	31	999	17.5	56	31	986			30	981			31	914	4.8	48	29	987			31	979	11.9	53
850----	31	1,500	13.5	58	31	1,485	15.0	53	31	1,484	22.1	21	30	1,463			31	1,376	.5	55	29	1,482	20.3	22	31	1,455	8.7	56
800----	31	2,008	10.5	55	31	1,996	12.5	49	31	2,005	17.5	24	30	1,976	11.9	36	31	1,859	- 3.6	63	29	2,001	16.2	26	31	1,954	6.0	56
750----	31	2,550	7.6	50	31	2,540	9.2	47	31	2,553	12.7	27	30	2,516	8.0	39	31	2,368	- 7.7	69	29	2,546	11.3	32	31	2,485	2.6	55
700----	31	3,108	4.2	47	31	3,102	5.1	48	31	3,124	7.7	32	30	3,077	3.2	43	31	2,898	-11.7	70	29	3,114	6.2	39	31	3,034	- .9	52
650----	31	3,710	.6	44	30	3,708	1.1	44	31	3,732	2.5	38	30	3,671	- 1.9	47	31	3,467	-15.7	69	29	3,719	1.5	41	31	3,625	- 4.9	53
600----	31	4,346	- 3.4	41	30	4,343	- 3.1	42	31	4,370	- 2.7	42	30	4,303	- 6.7	46	31	4,061	-19.3	65	29	4,355	- 3.1	41	30	4,247	- 8.9	49
550----	31	5,025	- 7.8	37	30	5,028	- 8.0	43	31	5,054	- 7.9	44	30	4,977	-11.9	47	31	4,705	-23.5	63	29	5,035	- 7.6	36	30	4,919	-13.6	47
500----	31	5,762	-13.1		30	5,759	-13.3		31	5,787	-13.0	45	30	5,699	-17.2	46	31	5,392	-28.0	58	29	5,772	-12.3		30	5,632	-18.5	44
450----	31	6,565	-18.8	37	30	6,561	-18.8		31	6,589	-18.8	43	30	6,489	-22.8	41	31	6,142	-33.2	51	28	6,572	-18.4		30	6,416	-23.9	43
400----	31	7,424	-25.0	41	30	7,421	-24.9		30	7,450	-24.9	35	30	7,335	-29.0	41	31	6,958	-39.0		28	7,436	-25.0		30	7,259	-30.0	44
350----	31	8,380	-32.2	41	30	8,377	-32.3		30	8,406	-32.2		30	8,276	-35.5		31	7,860	-45.4		27	8,392	-32.5		30	8,194	-37.3	42
300----	31	9,450	-40.5		30	9,445	-40.9		30	9,474	-40.4		29	9,341	-42.6		31	8,872	-51.5		26	9,461	-40.6		30	9,239	-45.4	
250----	30	10,663	-50.2		30	10,658	-50.6		30	10,691	-49.2		29	10,548	-50.6		31	10,046	-52.7		25	10,673	-49.6		30	10,431	-53.7	
200----	30	12,088	-59.3		30	12,081	-59.4		29	12,123	-57.7		29	11,982	-55.7		31	11,504	-47.5		24	12,101	-58.1		30	11,849	-56.3	
175----	30	12,919	-61.1		28	12,911	-61.3		29	12,959	-60.2		29	12,829	-56.7		31	12,385	-47.1		21	12,938	-60.0		30	12,698	-55.1	
150----	30	13,878	-59.8		27	13,871	-59.4		29	13,916	-61.7		29	13,805	-57.2		31	13,404	-47.5		16	13,871	-60.3		30	13,682	-54.3	
125----	29	15,015	-60.5		27	15,007	-60.8		27	15,043	-64.2		28	14,959	-57.1		31	14,606	-48.1		13	15,009	-61.7		30	14,849	-54.9	
100----	26	16,406	-61.3		25	16,388	-61.6		25	16,399	-66.6		26	16,362	-59.6		29	16,066	-49.0		6	16,392	-64.9		29	16,272	-56.0	
80-----	24	17,784	-62.5		24	17,769	-62.5		23	17,747	-66.1		20	17,768	-59.6		29	17,528	-49.7						26	17,692	-56.8	
60-----	21	19,568	-60.9		18	19,542	-61.4		20	19,512	-63.2		20	19,565	-59.3		28	19,402	-50.4						23	19,518	-57.0	
50-----	20	20,705	-59.3		16	20,674	-59.6		18	20,637	-60.2		17	20,715	-57.6		28	20,589	-50.9						22	20,670	-56.3	
40-----	17	22,118	-56.2		15	22,076	-56.9		17	22,037	-56.9		14	22,131	-55.6		25	22,041	-51.4						16	22,090	-55.0	
30-----	14	23,964	-52.1		8	23,916	-53.3		12	23,870	-52.8		8	23,967	-53.0		14	23,917	-50.9						9	23,953	-52.0	
20-----	5	26,630	-49.9																									

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb.)	GRAND JUNCTION, COLO. (849 MB.)				GREAT FALLS, MONT. (886 MB.)				GREEN BAY, WIS. (989 MB.)				GREENSBORO, N. C. (985 MB.)				HATTERAS, N. C. (1017 MB.)				HILO, T. H. (1016 MB.)				INTERNAT. FALLS, MINN. (969 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,474	16.7	35	31	1,123	10.7	56	31	210	13.2	68	31	273	18.7	70	31	3	19.1	85	31	9	23.3	76	31	360	12.0	65
1,000	31	51			31	95			31	112			31	143			31	144	18.9	81	31	152	21.7	76	31	96		
950	31	500			31	533			31	551	14.3	56	31	587	19.7	56	31	590	17.5	68	31	595	18.0	81	31	530	14.0	55
900	31	970			31	989			31	1,002	12.0	56	31	1,050	16.6	58	31	1,046	15.5	60	31	1,057	14.7	84	31	984	11.1	56
850	31	1,462		32	31	1,464	9.1	51	31	1,479	9.6	54	31	1,534	13.4	59	31	1,528	12.6	54	31	1,539	11.7	87	31	1,458	8.3	59
800	31	1,978	14.9	29	31	1,963	5.3	56	31	1,979	6.6	56	31	2,042	10.0	59	31	2,034	9.8	48	31	2,045	9.5	77	31	1,956	5.2	60
750	31	2,524	10.2	33	31	2,493	1.3	60	31	2,514	3.9	52	31	2,583	6.6	56	31	2,575	6.6	41	31	2,587	7.6	55	31	2,488	2.1	56
700	31	3,088	5.3	37	31	3,039	- 2.2	59	31	3,064	.9	48	31	3,139	2.7	55	31	3,130	3.4	39	31	3,147	6.8	28	31	3,034	- 1.0	57
650	31	3,689	.1	44	31	3,626	- 5.9	61	31	3,660	- 2.6	44	31	3,740	- .9	48	31	3,731	- .3	38	31	3,757	4.3		31	3,621	- 4.6	52
600	31	4,323	- 5.3	49	31	4,247	- 9.9	59	31	4,286	- 6.4	38	31	4,370	- 4.4	43	31	4,363	- 3.9		31	4,400	.2		31	4,248	- 8.4	47
550	31	5,000	-10.8	51	31	4,915	-14.1	55	31	4,960	-10.8	37	31	5,054	- 8.5	40	31	5,048	- 8.1		31	5,091	- 4.3		31	4,916	-12.8	43
500	31	5,724	-16.3	49	30	5,627	-19.5	51	31	5,687	-15.8	36	31	5,783	-13.3	36	31	5,778	-12.8		31	5,836	- 9.4		31	5,638	-17.7	42
450	31	6,515	-21.9	40	30	6,410	-25.0	49	31	6,483	-21.4	36	31	6,588	-18.7	34	31	6,581	-18.5		31	6,652	-15.1	38	31	6,425	-23.3	41
400	30	7,361	-28.4	35	30	7,247	-31.1	50	31	7,330	-27.9	34	31	7,445	-24.8	34	31	7,441	-24.9		31	7,524	-21.1		31	7,270	-29.4	40
350	30	8,303	-35.9		30	8,179	-38.5		31	8,275	-35.0		31	8,401	-32.1		31	8,397	-32.0	37	31	8,495	-28.5	37	30	8,204	-36.8	
300	30	9,355	-43.8		30	9,218	-46.6		31	9,332	-42.6		31	9,470	-40.5		31	9,467	-40.6		31	9,580	-37.1		30	9,253	-44.6	
250	29	10,555	-51.6		30	10,404	-54.3		31	10,539	-51.2		31	10,686	-49.9		31	10,681	-50.4		31	10,814	-46.9		30	10,451	-52.3	
200	29	11,982	-56.5		30	11,825	-55.3		31	11,964	-57.7		31	12,112	-59.6		31	12,104	-59.4		31	12,255	-58.2		29	11,876	-56.1	
175	29	12,826	-57.5		30	12,677	-54.4		30	12,804	-57.8		31	12,940	-62.3		31	12,934	-62.1		31	13,084	-63.5		29	12,725	-55.8	
150	29	13,798	-57.6		30	13,664	-54.3		30	13,776	-57.5		30	13,890	-62.5		31	13,884	-62.4		28	14,016	-67.6		27	13,706	-54.9	
125	27	14,947	-58.1		30	14,830	-55.1		29	14,918	-58.1		28	15,010	-61.6		30	15,011	-62.1		23	15,106	-68.8		22	14,861	-55.5	
100	25	16,345	-60.5		30	16,250	-56.3		26	16,319	-59.3		26	16,391	-63.3		30	16,384	-63.2		18	16,434	-70.5		16	16,289	-56.8	
80	24	17,732	-59.6		28	17,663	-56.9		24	17,710	-59.8		22	17,750	-63.3		27	17,758	-63.3		14	17,758	-69.5		15	17,692	-58.1	
60	21	19,529	-59.6		24	19,486	-57.6		23	19,502	-59.6		18	19,523	-61.6		25	19,535	-61.2		13	19,475	-67.0		13	19,507	-57.7	
50	20	20,673	-58.2		20	20,642	-57.1		19	20,649	-58.5		18	20,657	-59.4		25	20,672	-58.5		13	20,583	-64.2		11	20,653	-56.4	
40	15	22,094	-55.5		15	22,067	-55.6		18	22,053	-56.4		14	22,071	-56.3		22	22,065	-56.6		10	21,951	-61.0		[illegible]	22,058	-55.6	
30	12	23,935	-52.9		8	23,894	-54.3		14	23,899	-53.4		12	23,913	-52.6		15	23,908	-53.1		[illegible]	23,746	-55.8					

	KOTZEBUE, ALASKA (1007 MB.)				LAKE CHARLES, LA. (1013 MB.)				LANDER, WYO. (825 MB.)				LAS VEGAS, NEV. (933 MB.)				LITTLE ROCK, ARK. (1004 MB.)				MAZATLAN, MEXICO (1008 MB.)				MCGRATH, ALASKA (992 MB.)			
SURFACE	31	5	1.4	79	31	5	23.7	81	31	1,696	13.6	37	31	660	24.6	16	30	79	21.7	73	26	14	24.1	78	31	103	10.6	52
1,000	31	61		76	31	119	24.2	76	31	40			31	41			30	113		66	26	88	23.4	78	31	35		
950	31	479	1.9	66	31	568	22.0	69	31	486			31	495			30	566	21.0	60	26	552	23.6	50	31	462	7.3	47
900	31	910	- .5	64	31	1,036	19.7	58	31	952			31	970	23.4	18	30	1,025	17.7	64	26	1,009	23.7	38	31	901	3.3	53
850	31	1,364	- 3.2	63	31	1,526	16.7	55	31	1,444			31	1,464	18.9	21	30	1,511	14.3	67	26	1,506	21.6		31	1,361	- .9	62
800	31	1,841	- 6.0	61	31	2,040	14.0	46	31	1,960	13.8	28	31	1,979	14.1	25	29	2,022	11.7	50	26	2,029	18.8		31	1,841	- 5.0	68
750	31	2,346	- 8.9	55	31	2,584	11.2	41	31	2,500	9.3	30	31	2,522	9.1	30	29	2,569	8.9	47	26	2,589	15.4		31	2,348	- 8.8	71
700	31	2,875	-12.3	57	31	3,155	7.9	38	31	3,066	4.4	35	31	3,084	3.8	35	29	3,127	5.8	41	26	3,160	11.2	37	31	2,874	-12.6	71
650	31	3,442	-15.9	58	31	3,767	4.0	37	31	3,661	- .7	39	31	3,682	- 1.4	40	29	3,734	2.2	41	26	3,780	6.7	39	31	3,443	-16.3	67
600	31	4,036	-19.4	55	31	4,409	.0	37	31	4,297	- 5.9	42	31	4,313	- 6.2	39	29	4,372	- 1.8		26	4,425	1.8	41	31	4,034	-19.9	64
550	31	4,679	-23.4	55	31	5,100	- 4.3	34	31	4,967	-11.2	42	31	4,989	-10.7	30	29	5,059	- 6.3		26	5,120	- 3.4		31	4,676	-24.0	60
500	31	5,368	-28.1	56	29	5,843	- 9.4		31	5,696	-16.7	40	31	5,714	-15.3	27	29	5 797	-11.3		26	5,866	- 8.4		31	5,362	-28.5	57
450	31	6,120	-33.5	54	29	6,658	-15.0		31	6,482	-22.4	36	31	6,509	-20.8		29	6,607	-17.1		26	6,684	-14.0		31	6,114	-33.5	54
400	30	6,932	-39.5		29	7,530	-21.3		31	7,332	-29.1	39	31	7,362	-27.0		27	7,468	-23.4		26	7,560	-19.9		31	6,926	-39.4	
350	30	7,831	-46.5		29	8,500	-28.7		31	8,271	-36.6		31	8,310	-34.1		26	8,429	-30.7		26	8,535	-27.7		31	7,827	-45.8	
300	30	8,838	-52.9		28	9,585	-37.3		31	9,319	-45.0		31	9,370	-42.1		26	9,504	-39.3		26	9,622	-36.4		31	8,837	-51.7	
250	30	10,009	-52.1		27	10,821	-46.9		31	10,514	-52.3		31	10,579	-50.4		26	10,727	-49.0		25	10,863	-46.0		31	10,013	-51.7	
200	30	11,473	-46.7		27	12,265	-56.9		31	11,934	-57.7		30	12,010	-57.2		26	12,157	-58.9		20	12,322	-56.4		31	11,475	-47.3	
175	30	12,357	-46.3		26	13,101	-60.9		31	12,775	-56.9		29	12,850	-58.5		25	12,991	-61.5		18	13,165	-62.3		31	12,358	-46.9	
150	30	13,379	-46.6		26	14,052	-63.2		30	13,753	-55.9		28	13,820	-58.6		24	13,944	-62.0		15	14,118	-68.2		31	13,377	-47.4	
125	30	14,586	-47.0		26	15,167	-65.0		29	14,911	-56.7		27	14,964	-59.9		23	15,067	-63.0		9	15,198	-72.3		30	14,574	-48.0	
100	30	16,059	-48.0		20	16,514	-66.4		27	16,320	-58.3		23	16,353	-60.9		19	16,423	-64.1						29	16,040	-48.8	
80	30	17,527	-48.7		14	17,862	-66.5		24	17,725	-59.5		21	17,740	-61.4		17	17,787	-64.7						29	17,503	-49.2	
60	29	19,415	-49.4		10	19,612	-63.5		20	19,527	-59.3		20	19,527	-60.3		15	19,547	-62.6						28	19,391	-49.8	
50	28	20,614	-49.4		10	20,740	-60.1		16	20,666	-58.6		20	20,666	-58.5		15	20,675	-60.9						28	20,582	-49.9	
40	26	22,070	-49.5		10	22,142	-56.7		13	22,075	-56.6		19	22,077	-56.3		14	22,078	-57.2						26	22,047	-49.8	
30	21	23,955	-49.3		9	23,985	-53.2		12	23,912	-54.0		16	23,919	-52.9		12	23,906	-53.6						17	23,930	-49.3	
20					6	26,606	-50.0						5	26,545	-48.8													

	MEDFORD, ORE. (970 MB.)				MIAMI, FLA. (1016 MB.)				MIDLAND, TEX. (912 MB.)				NANTUCKET, MASS. (1014 MB.)				NASHVILLE, TENN. (995 MB.)				NOME, ALASKA (1005 MB.)				NORTH PLATTE, NEBR. (914 MB.)			
SURFACE	31	401	16.6	48	31	4	24.1	79	31	871	23.2	43	31	14	9.6	91	31	177	20.5	72	31	7	3.8	77	31	848	16.5	57
1,000	31	141			31	145	23.7	73	31	56			31	128	11.6	80	31	132			31	45			31	73		
950	31	585	15.4	45	31	591	21.0	68	31	515			31	561	13.2	60	31	578	20.1	58	31	463	1.5	69	31	521		
900	31	1,035	11.5	50	31	1,059	18.4	55	31	987	23.7	38	31	1,013	11.3	58	31	1,042	17.0	57	31	894	- 1.0	67	31	982	18.1	46
850	31	1,509	7.6	57	31	1,546	15.1	54	31	1,484	20.3	39	31	1,488	8.5	57	31	1,526	13.5	60	31	1,348	- 3.6	67	31	1,469	15.4	44
800	31	2,005	3.8	60	31	2,057	11.8	52	31	2,004	16.6	37	31	1,987	5.5	56	31	2,034	10.4	57	31	1,824	- 6.3	67	31	1,980	12.0	46
750	31	2,532	.4	59	31	2,595	8.4	50	31	2,557	12.6	37	31	2,515	2.6	52	31	2,575	7.2	49	31	2,330	- 9.5	66	31	2,522	8.2	48
700	31	3,077	- 2.5	50	31	3,161	4.9	48	31	3,123	8.1	37	31	3,067	- .7	52	31	3,133	3.9	45	31	2,856	-12.8	66	31	3,083	4.3	47
650	31	3,665	- 5.5	43	31	3,765	1.4	46	31	3,734	2.9	41	31	3,662	- 3.9	46	31	3,736	.2	44	31	3,425	-16.4	65	31	3,685	.2	46
600	31	4,286	- 9.1	41	31	4,402	- 2.2	39	30	4,373	- 1.9	41	31	4,283	- 7.5	40	31	4,369	- 3.7	41	31	4,014	-19.9	59	31	4,319	- 4.1	44
550	31	4,958	-13.2	39	31	5,088	- 6.4	36	30	5,060	- 6.8	37	31	4,960	-11.7	37	31	5,052	- 7.9	40	31	4,658	-24.1	57	31	4,999	- 8.7	43
500	31	5,674	-17.8	35	31	5,828	-11.0	31	30	5,795	-12.1	40	29	5,680	-16.7	34	31	5,785	-12.5	36	31	5,343	-28.5	53	31	5,730	-14.2	40
450	31	6,465	-23.0	34	30	6,636	-16.3		30	6,601	-17.7	39	29	6,472	-21.7		31	6,588	-18.1		31	6,093	-33.9	51	31	6,525	-20.0	
400	31	7,307	-28.9	34	30	7,510	-22.7		30	7,464	-24.1	38	29	7,322	-27.6		31	7,450	-24.6		31	6,905	-39.6		30	7,383	-26.4	
350	31	8,247	-36.0		30	8,474	-30.1		28	8,424	-31.6		29	8,267	-34.7		31	8,408	-31.9		31	7,805	-46.1		30	8,333	-33.9	
300	31	9,300	-43.5		29	9,553	-38.2		28	9,496	-39.8		29	9,325	-42.3		30	9,478	-40.4		31	8,815	-51.6		29	9,392	-42.1	
250	31	10,502	-51.7		28	10,779	-47.6		28	10,715	-49.3		29	10,533	-50.8		30	10,695	-49.5		31	9,994	-51.1		29	10,599	-51.2	
200	31	11,923	-57.9		28	12,219	-57.3		28	12,146	-58.6		29	11,959	-57.6		29	12,127	-59.1		31	11,462	-46.3		29	12,019	-59.8	
175	31	12,763	-58.4		26	13,060	-61.5		28	12,977	-61.6		29	12,800	-58.4		29	12,958	-61.9		31	12,349	-46.0		29	12,850	-60.0	
150	31	13,732	-57.8		26	14,004	-65.5		27	13,932	-62.9		29	13,768	-58.2		29	13,910	-62.0		30	13,373	-46.4		28	13,819	-58.8	
125	31	14,879	-58.1		25	15,104	-68.8		24	15,038	-64.6		28	14,908	-58.9		27	15,038	-62.5		30	14,581	-47.1		27	14,964	-59.4	
100	30	16,282	-59.0		23	16,434	-70.6		19	16,399	-66.2		26	16,301	-59.2		25	16,409	-63.7		29	16,053	-47.7		24	16,364	-60.6	
80	27	17,685	-58.6		19	17,751	-70.0		15	17,753	-67.0		21	17,682	-59.3		24	17,780	-63.1		29	17,523	-48.2		23	17,751	-61.4	
60	26	19,495	-58.4		15	19,475	-65.0		12	19,505	-62.9		19	19,488	-58.7		20	19,543	-61.9		29	19,413	-48.7		16	19,528	-60.9	
50	23	20,644	-57.3		14	20,592	-61.7		10	20,645	-60.4		17	20,634	-57.0		18	20,677	-59.5		25	20,617	-48.8		15	20,666	-59.1	
40	19	22,059	-56.0		12	21,979	-58.5		9	22,043	-58.0		17	22,051	-55.2		16	22,080	-56.0		22	22,096	-48.4		12	22,076	-56.7	
30	15	23,904	-53.5		7	23,838	-54.5		7	23,877	-53.9		14	23,901	-52.9		11	23,931	-52.4		19	24,017	-47.9		6	23,913	-53.7	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

Standard pressure surface (mb.)	NORTHWAY, ALASKA (944 MB.)				OAKLAND, CALIF (1014 MB.)				OKLAHOMA CITY, OKLA. (966 MB.)				OMAHA, NEBR (965 MB.)				PHOENIX, ARIZ (970 MB.)				PITTSBURGH, PA. (975 MB.)				PORTLAND, ME. (1012 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	12	524	6.4		31	6	14.1	71	31	391	21.0	73	31	403	18.3	[illegible]	31	341	27.5	[illegible]	31	[illegible]	16.2	63	31	20	10.8	81
1,000--	12	50			31	126	13.6	69	31	93			31	93			31	66			31	135			31	117	13.4	70
950----	12	478			31	565	14.0	59	31	538	21.7	66	31	539	19.4	50	31	522	27.4	16	31	574	15.8	59	31	550	13.2	59
900---	12	915	3.2		31	1,014	13.5	49	31	1,008	19.4	64	31	1,001	16.5	[illegible]	31	[illegible]	[illegible]	16	31	1,031	13.4	57	31	1,003	10.7	59
850----	12	1,374	- .9		31	1,494	11.5	44	31	1,498	16.3	61	31	1,484	13.5	50	31	1,491	19.2	[illegible]	31	1,509	10.4	60	31	1,477	7.4	61
800----	12	1,854	- 5.3		31	1,998	8.8	38	31	2,011	13.1	55	31	1,992	10.3	52	31	2,007	14.6	22	31	2,011	7.4	[illegible]	31	1,974	4.2	65
750----	12	2,363	- 9.7		31	2,538	5.5	32	31	2,557	9.5	51	31	[illegible]	7.2	47	31	2,551	9.9	26	31	2,546	4.1	60	31	2,501	1.4	60
700----	12	2,885	-13.9		30	3,087	1.9	32	31	3,119	5.8	48	31	3,091	3.9	[illegible]	31	3,115	5.1	30	31	3,099	1.2	56	31	3,049	- 1.9	60
650----	12	3,457	-18.2		29	3,684	- 1.9	32	31	3,724	1.6	[illegible]	31	[illegible]	[illegible]	40	31	3,721	.5	[illegible]	31	3,693	- 2.1	[illegible]	31	3,640	- 5.4	[illegible]
600----	12	4,036	-22.2		29	4,312	- 5.9	35	31	4,362	- 2.5	41	31	4,325	- 4.2	[illegible]	31	4,352	- 4.0		31	4,324	- 6.0	52	31	4,259	- 8.9	47
550----	12	4,675	-26.2		29	4,993	-10.6	36	31	5,049	- 6.8	39	31	5,007	- 8.7	34	31	5,037	- 8.4		31	5,000	-10.1	50	31	4,932	-13.3	41
500----	12	5,353	-30.6		29	5,714	-15.9	37	30	5,782	-11.7	41	31	5,738	-13.8	33	31	5,765	-13.3		31	5,728	-14.9	49	31	5,647	-18.1	40
450----	12	6,098	-35.6		29	6,510	-21.4	36	30	6,589	-17.4		31	6,535	-19.7		31	6,564	-19.3		31	6,521	-20.7	45	31	6,432	-23.5	42
400----	12	6,904	-40.8		29	7,358	-27.7	36	30	7,452	-23.8		31	7,392	-26.1		31	7,422	[illegible]		31	7,377	-26.7	41	31	7,278	-29.3	40
350----	12	7,799	-47.4		29	8,303	-34.9		29	8,410	-31.3		31	8,343	-33.8		[illegible]	8,375	-32.7		31	8,326	-34.0		31	8,216	-36.2	
300----	12	8,802	-53.7		29	9,360	-43.0		28	9,482	-39.9		31	9,405	-42.1		31	9,441	-41.0		31	9,386	-42.3		31	9,269	-43.1	
250----	12	9,964	-54.4		29	10,565	-51.7		28	10,701	-49.1		31	10,613	-51.5		31	10,655	-49.7		31	10,592	-51.6		29	10,460	-50.7	
200----	12	11,412	-48.4		29	11,987	-58.2		28	12,132	-58.3		31	12,033	-59.4		31	12,090	-56.4		30	12,009	-59.3		28	11,883	-55.5	
175----	12	12,291	-47.9		29	12,824	-59.6		27	12,966	-60.6		31	12,865	-60.8		31	12,933	-58.0		30	12,840	-60.6		28	12,733	-55.3	
150----	12	13,307	-47.7		28	13,782	-59.3		24	13,925	-61.3		31	13,826	-59.5		31	13,902	-58.9		30	13,800	-59.7		28	13,715	-55.3	
125----	11	14,512	-48.3		27	14,924	-60.0		24	15,055	-61.6		31	14,966	-59.7		30	15,037	-60.9		29	14,933	-59.8		28	14,874	-56.6	
100----	11	15,977	-49.3		24	16,313	-60.8		24	16,430	-63.3		31	16,356	-60.7		29	16,419	-62.4		27	16,319	-60.9		25	16,274	-57.5	
80-----	11	17,435	-50.2		22	17,703	-60.5		21	17,800	-63.7		29	17,737	-61.8		25	17,791	-62.8		24	17,695	-61.3		25	17,680	-58.2	
60-----	11	19,306	-51.3		21	19,497	-59.9		16	19,576	-62.1		28	19,522	-60.7		19	19,562	-62.0		21	19,477	-60.4		22	19,489	-57.5	
50-----	11	20,488	-51.8		17	20,655	-58.6		[illegible]	20,712	-59.4		21	20,671	-59.6		16	20,696	-59.7		16	20,606	-58.9		20	20,648	-55.9	
40-----	9	21,936	-52.2		15	22,074	-56.6		12	22,122	-56.4		19	22,072	-56.7		15	22,094	-56.6		13	22,013	-57.0		19	22,069	-54.1	
30-----	5	23,806	-51.9		14	23,916	-53.8		10	23,970	-52.9		17	23,914	-53.4		10	23,931	-53.5		10	23,859	-53.4		11	23,930	-52.0	
20-----					7	26,560	-49.6																					

Standard pressure surface (mb.)	RAPID CITY, S. DAK. (901 MB.)				ST. CLOUD, MINN. (975 MB.)				SAN ANTONIO, TEX. (984 MB.)				SAN JUAN, P. R. (1014 MB.)				SANTA MARIA, CALIF. (1007 MB.)				S. STE. MARIE, MICH. (988 MB.)				SPOKANE, WASH. (931 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	966	14.9	53	31	316	16.1	57	31	243	25.7	59	31	19	24.9	84	31	74	12.0	78	31	221	9.8	69	31	722	11.8	51
1,000--	31	65			31	94			31	96			31	145	24.4	79	31	130	11.6	78	31	122			31	118		
950----	31	508			31	538	17.3	50	31	549	24.2	58	31	594	21.6	79	31	565	12.0	71	31	555	11.9	54	31	556		
900----	31	972		45	31	993	14.3	53	31	1,022	21.3	59	31	1,062	18.7	78	31	1,014	13.1	54	31	1,002	10.2	53	31	1,004	10.2	50
850----	31	1,458	13.7	49	31	1,473	11.1	54	31	1,515	18.3	58	31	1,551	15.8	75	31	1,493	11.7	46	31	1,476	7.7	53	31	1,476	6.3	55
800----	31	1,965	10.0	53	31	1,976	7.9	51	31	2,032	15.3	57	31	2,064	13.4	66	31	1,997	8.9	41	31	1,973	5.1	49	31	1,970	2.2	61
750----	31	2,506	6.1	57	31	2,510	4.6	48	31	2,578	12.3	48	31	2,609	11.1	51	31	2,535	6.0	35	31	2,503	2.2	52	31	2,495	- 1.7	64
700----	31	3,060	2.6	56	31	3,065	1.1	49	31	3,152	9.0	42	31	3,179	8.1	44	31	3,090	2.8	32	31	3,051	- 1.1	53	31	3,033	- 5.4	65
650----	30	3,657	- 1.5	54	31	3,659	- 2.3	45	31	3,765	4.9	37	31	3,791	4.9	45	31	3,689	- .8	28	31	3,643	- 4.1	46	31	3,623	- 9.0	60
600----	30	4,287	- 6.0	47	31	4,288	- 6.3	42	31	4,409	.3	36	31	4,437	1.1	43	31	4,321	- 4.5	25	30	4,263	- 7.8	45	31	4,226	-12.8	52
550----	30	4,960	-11.1	49	31	4,962	-10.5	38	30	5,098	- 4.4	35	31	5,130	- 2.8	34	31	5,001	- 9.0	25	30	4,935	-12.0	43	31	4,891	-17.0	45
500----	30	5,687	-16.4	45	31	5,690	-15.5	33	30	5,846	- 9.6	32	31	5,881	- 7.6	38	31	5,731	-14.0		30	5,657	-16.9	40	31	5,594	-21.5	40
450----	30	6,475	-22.3	43	31	6,480	-21.1		30	6,654	-15.5	34	30	6,695	-12.9	37	31	6,529	-19.9		30	6,444	-22.5	37	31	6,372	-26.6	37
400----	30	7,325	-28.7	44	31	7,355	-27.8	33	30	7,530	-21.9	36	30	7,580	-18.7		31	7,384	-26.4		30	7,294	-28.8		31	7,204	-32.3	37
350----	30	8,266	-36.2		31	8,281	-35.0		29	8,499	-29.3		30	8,561	-25.7		31	8,334	-33.8		30	8,234	-36.2		31	8,132	-38.9	
300----	30	9,317	-44.4		31	9,337	-43.3		29	9,580	-37.8		30	9,659	-34.0		30	9,411	-41.5		30	9,287	-43.6		31	9,172	-46.0	
250----	30	10,513	-53.3		31	10,541	-51.5		29	10,809	-47.8		30	10,910	-43.9		30	10,624	-50.1		30	10,489	-51.6		31	10,366	-51.8	
200----	30	11,926	-59.9		31	11,968	-57.4		29	12,245	-58.2		30	12,370	-55.5		30	12,053	-58.0		28	11,923	-56.9		31	11,803	-53.4	
175----	30	12,761	-58.7		31	12,810	-57.5		28	13,077	-62.3		30	13,208	-62.1		30	12,891	-59.3		27	12,764	-56.4		31	12,663	-52.5	
150----	30	13,730	-58.0		31	13,784	-57.1		28	14,022	-64.7		30	14,144	-69.0		30	13,854	-59.5		23	13,732	-56.0		31	13,658	-52.6	
125----	29	14,878	-58.3		31	14,937	-57.4		27	15,129	-66.8		27	15,221	-73.8		30	14,991	-60.6		21	14,897	-57.1		30	14,831	-54.5	
100----	27	16,280	-59.4		30	16,341	-58.8		26	16,473	-68.3		24	16,508	-76.1		30	16,374	-61.7		19	15,301	-58.4		26	16,254	-54.9	
80-----	26	17,674	-60.0		30	17,741	-59.0		16	17,807	-68.7		20	17,801	-74.6		30	17,755	-61.1		18	17,704	-59.3		22	17,672	-55.9	
60-----	19	19,468	-59.9		28	19,548	-58.8		11	19,547	-65.1		19	19,496	-68.5		26	19,537	-60.1		15	19,507	-58.6		19	19,491	-56.1	
50-----	13	20,623	-58.5		25	20,697	-57.8		11	20,665	-61.6		18	20,603	-63.9		19	20,671	-58.9		12	20,656	-58.7		16	20,649	-55.9	
40-----	12	22,030	-57.0		22	22,115	-55.6		8	22,067	-57.9		17	21,991	-58.2		13	22,097	-56.6		7	22,067	-55.8		12	22,087	-54.8	
30-----	7	23,859	-54.5		18	23,961	-52.5		5	23,884	-53.9		17	23,818	-54.2		8	23,953	-52.5						10	23,929	-52.2	
20-----					6	26,649	-48.7						7	26,425	-49.2													

Standard pressure surface (mb.)	SWAN ISLAND, W. I. (1013 MB.)				TAMPA, FLA. (1016 MB.)				TATOOSH ISLAND, WASH. (1017 MB.)				WASHINGTON, D. C. (1006 MB.)				YAKUTAT, ALASKA (1012 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	10	26.4	77	31	7	22.8	80	31	31	8.6	86	31	88	17.8	64	31	12	5.8	83
1,000--	31	120	25.7	77	31	149	23.7	74	31	167	7.8	83	31	140			31	110	5.0	81
950----	31	573	22.2	79	31	600	22.1	60	31	588	5.6	74	31	585	17.5	55	31	528	2.1	80
900----	31	1,039	19.5	70	31	1,065	19.3	61	31	1,030	3.7	68	31	1,040	14.5	57	31	961	- .8	80
850----	31	1,530	16.9	58	31	1,554	15.6	61	31	1,492	1.3	64	31	1,520	11.4	55	31	1,415	- 3.8	79
800----	31	2,044	14.0	52	31	2,066	12.0	63	31	1,978	- 1.4	62	31	2,024	8.5	50	31	1,891	- 6.7	73
750----	31	2,594	11.5	43	31	2,610	8.6	55	31	2,493	- 4.7	55	31	2,561	5.1	53	31	2,395	- 9.9	71
700----	31	3,159	8.5	31	31	3,171	5.3	47	31	3,029	- 7.2	45	31	3,114	1.6	51	31	2,921	-13.3	66
650----	31	3,776	5.2		31	3,779	1.7	44	31	3,610	-10.1	44	31	3,715	- 1.7	45	31	3,488	-16.4	61
600----	31	4,418	1.9		31	4,414	- 2.0	40	31	4,218	-13.1	43	31	4,340	- 5.7	43	31	4,079	-20.0	57
550----	31	5,115	- 2.2		31	5,102	- 6.2	37	31	4,879	-16.9	39	31	5,020	- 9.8	43	30	4,726	-24.2	52
500----	31	5,865	- 7.0		31	5,840	-10.7	32	31	5,585	-21.5	37	31	5,746	-14.7	40	30	5,409	-28.8	48
450----	31	6,689	-12.0		31	6,654	-16.1		31	6,356	-26.9	38	31	6,544	-20.2		30	6,163	-33.7	45
400----	31	7,571	-17.5		31	7,520	-22.4		31	7,192	-32.9		31	7,397	-26.6		30	6,972	-39.1	
350----	31	8,556	-24.7		31	8,485	-29.7		31	8,118	-39.2		30	8,347	-34.0		30	7,875	-45.2	
300----	31	9,658	-32.9		31	9,564	-38.4		31	9,158	-45.7		30	9,409	-42.1		30	8,890	-50.2	
250----	30	10,912	-42.7		31	10,790	-47.9		31	10,354	-51.5		30	10,616	-51.4		30	10,079	-49.6	
200----	29	12,378	-53.8		31	12,228	-57.7		31	11,794	-52.6		30	12,035	-59.6		30	11,543	-47.8	
175----	27	13,221	-60.0		31	13,062	-61.4		30	12,652	-52.6		30	12,866	-61.1		30	12,425	-47.5	
150----	26	14.167	-66.8		31	14,010	-64.2		30	13,646	-52.7		30	13,823	-60.7		29	13,441	-48.4	
125----	25	15,251	-72.9		30	15,115	-67.0		30	14,820	-53.3		28	14,948	-60.8		29	14,637	-49.6	
100----	20	16,537	-77.0		28	16,456	-69.0		30	16,250	-54.9		26	16,328	-61.8		26	16,088	-50.0	
80-----	16	17,822	-75.1		23	17,786	-68.7		29	17,674	-54.4		26	17,708	-61.8		23	17,534	-50.3	
60-----	12	19,515	-69.0		20	19,524	-63.9		25	19,514	-54.7		26	19,489	-61.1		21	19,411	-51.0	
50-----	12	20,619	-63.6		20	20,647	-61.5		25	20,680	-54.9		26	20,624	-59.5		21	20,594	-51.7	
40-----	10	21,994	-59.7		18	22,045	-58.1		23	22,103	-53.9		25	22,032	-56.4		19	22,038	-51.6	
30-----	10	23,814	-54.3		16	23,878	-53.0		19	23,965	-52.1		24	23,871	-53.4		11	23,909	-51.9	
20-----	5	26,449	-48.7		6	26,528	-47.4		8	26,712	-46.2		16	26,496	-50.1					
15-----													6	28,335	-49.3					

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T., "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for January 1955

Standard pressure surface (mb)	DENVER, COLO. (830 MB.)				FT. WORTH, TEX. (998 MB.)				OGDEN, UTAH (855 MB.)				RANTOUL, ILL. (991 MB.)				ROME, N. Y. (996 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,661	- 4.1	53	31	178	8.3	71	31	1,450	- 6.1	69	31	227	- 3.3	74	31	146	- 8.2	67
1,000--	31	159			31	160			31	208			31	154			31	123		
950----	31	579			31	588	7.6	62	31	620			31	560	- 3.7	73	31	527	- 7.7	69
900--	31	1,015			31	1,028	6.3	57	31	1,049			31	985	- 4.7	63	31	943	- 9.0	73
850----	31	1,471			31	1,495	4.8	51	31	1,500		69	31	1,434	- 5.2	53	31	1,385	-10.3	71
800---	31	1,954	- .3	47	31	1,987	2.9	47	31	1,978	- 4.8	68	31	1,910	- 6.3	55	31	1,851	-11.3	65
750----	31	2,470	- 2.7	43	31	2,514	1.2	41	31	2,485	- 7.2	66	31	2,417	- 7.6	53	31	2,348	-12.7	60
700----	31	3,012	- 6.3	42	31	3,060	- 1.7	37	31	3,018	- 9.8	63	31	2,948	- 9.7	51	31	2,869	-14.5	57
650----	31	3,590	-10.6	44	31	3,649	- 5.1	38	31	3,589	-12.5	57	31	3,522	-12.3	50	31	3,431	-16.9	52
600----	31	4,197	-15.1	46	31	4,270	- 8.5		31	4,195	-15.6	57	31	4,126	-15.7	50	31	4,024	-20.4	51
550----	31	4,854	-19.4	48	31	4,945	-12.9	35	31	4,846	-19.4	57	31	4,778	-20.0	48	31	4,662	-24.4	50
500----	31	5,552	-24.0	43	31	5,659	-17.7	36	31	5,548	-24.3	54	31	5,477	-24.8	45	31	5,352	-28.6	51
450----	31	6,319	-29.8	47	31	6,444	-23.2	38	31	6,309	-30.0	55	31	6,239	-30.1		31	6,106	-33.4	
400----	31	7,142	-36.0		31	7,289	-29.4		31	7,135	-36.4		31	7,066	-35.4		31	6,919	-38.4	
350----	31	8,057	-42.6		31	8,228	-36.5		31	8,045	-43.3		31	7,983	-41.6		31	7,825	-43.7	
300----	31	9,084	-48.6		31	9,279	-44.0		31	9,067	-49.5		31	9,014	-48.6		31	8,851	-47.6	
250----	31	10,269	-54.0		31	10,480	-52.1		31	10,244	-54.6		29	10,204	-51.1		31	10,046	-49.8	
200----	30	11,707	-54.2		30	11,905	-55.5		30	11,664	-54.8		29	11,651	-51.8		31	11,506	-49.1	
175----	30	12,565	-53.8		30	12,752	-56.9		27	12,507	-54.0		29	12,516	-51.5		30	12,378	-48.8	
150----	30	13,553	-55.4		30	13,724	-58.8		23	13,478	-53.8		28	13,512	-52.8		29	13,382	-50.0	
125----	29	14,709	-56.3		29	14,855	-61.8		20	14,649	-54.8		26	14,673	-55.5		28	14,563	-51.6	
100----	27	16,116	59.2		26	16,233	-66.3		12	16,040	-58.1		22	16,051	-57.3		26	15,996	-54.3	
80-----	26	17,500	-60.8		21	17,582	-68.8		7	17,408	-59.9		17	17,475	-59.7		23	17,408	-56.7	
60-----	19	19,283	-62.7		13	19,305	-67.6						12	19,245	-60.6		17	19,200	-58.6	
50-----	12	20,403	-61.8		10	20,396	-66.0						11	20,380	-61.2		15	20,349	-59.4	
40-----	5	21,767	-61.3		7	21,750	-64.8						8	21,777	-60.8		12	21,764	-59.7	
30-----					5	23,521	-62.1						5	23,557	-58.8					

* February data for the above Air Force stations will be included in the June issue of this publication.

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			1/ Boise, Idaho (864 m.)			Brownsville, Tex. (7 m.)			2/ Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)			Ely, Nev. (1,910 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	181	3.0	31	235	2.2	26	300	1.3	26	229	2.0	31	310	3.3	31	133	8.0	31	250	3.8	31	342	1.3	31	170	2.5	29	249	1.0	31	251	4.3	30	226	1.9
500		-	---		---	---	--									31	146	8.5	31	264	5.2	31	280	2.3	29	202	2.7	29	242	1.7						
1,000	31	173	4.1			----	-			27	188	2.5	31	313	3.7	28	155	6.8	31	279	6.8	30	281	4.1	27	252	3.1	29	255	2.7						
1,500	31	191	3.8	--		---	26	269	1.5	26	213	3.4	31	323	4.0	21	162	4.5	31	281	7.9	28	277	6.2	26	270	4.0	23	260	3.3	31	256	1.1	-		-
2,000	29	207	4.6	31	219	3.9	26	251	2.7	23	241	5.1	31	306	3.8	18	176	2.9	31	290	8.0	25	280	8.1	21	296	4.5	25	263	4.7	31	255	1.[illegible]	30	233	2.2
2,500	28	220	5.8	31	218	4.1	23	251	5.1	22	219	6.3	31	292	3.3	16	236	1.7	31	296	8.8	22	276	9.2	19	273	7.6	16	261	5.2	[illegible]	262	3.2	30	238	2.7
3,000	27	229	6.3	31	221	4.8	21	256	8.2	18	243	6.7	31	269	4.2	15	263	1.6	31	299	10.1	19	284	10.0	18	280	6.6	16	303	5.9	31	250	6.6	29	226	3.4
4,000	24	242	10.1	29	236	5.6	17	266	9.9	17	243	7.7	29	255	6.4	10	290	5.9	31	298	12.2				14	306	6.6	14	304	6.9	27	241	6.5	26	220	3.6
5,000	21	256	9.7	23	248	9.2	14	266	13.6	13	263	10.3	26	271	7.9				31	301	13.7				11	322	6.6	11	304	9.4	24	255	10.5	22	236	4.6
6,000	18	255	11.8	19	253	10.6	13	271	15.7	10	258	11.2	26	254	9.2				31	304	14.9				10	321	5.3	11	316	10.[illegible]	20	250	13.2	26	254	5.2
8,000				12	253	15.5							22	243	10.8				31	306	18.2										16	265	15.6	18	266	10.5
10,000													20	297	12.2				29	302	21.3										15	267	22.4	14	271	11.8
12,000													16	285	10.0				28	297	19.8													10	265	13.3
14,000													12	248	9.2				25	304	15.2															
16,000													12	220	6.8				22	310	9.8															

Altitude (meters) m.s.l.	Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Little Rock, Ark. (88 m.)			3/ Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			4/ Oakland, Calif. (8 m.)			Omaha, Neb. (306 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	242	2.1	30	206	1.4	29	245	1.1	26	230	3.1	30	85	3.0	30	164	2.2	31	311	2.8	31	122	4.3	31	189	3.8	31	259	1.2	31	262	5.1	31	147	1.9
500	--	---	----	30	221	2.7	29	233	1.9	--	---	--	30	108	2.0	30	186	2.1	31	312	3.3	31	124	4.0	30	208	4.4	[illegible]	225	1.9	31	266	[illegible]	31	146	2.5
1,000	--	---	----	29	234	4.4	29	245	2.2	26	277	3.7	30	216	.8	29	211	2.5	31	317	3.6	31	96	1.8	28	228	3.6	30	235	3.2	31	319	2.7	31	166	3.8
1,500	31	243	2.3	27	238	6.1	28	271	3.3	25	267	4.5	29	265	2.6	26	221	4.4	31	306	2.8	31	7	1.6	24	269	2.9	28	250	3.1	31	332	3.4	29	190	3.4
2,000	31	243	3.0	24	260	6.4	26	285	4.6	21	251	4.6	28	273	3.9	22	237	4.2	29	311	3.1	29	343	2.4	20	244	3.3	25	249	3.5	31	333	4.4	28	212	4.5
2,500	31	219	3.1	21	265	7.3	24	289	6.0	20	248	5.8	22	293	4.5	16	273	5.2	28	323	4.1	27	331	2.5	17	295	4.3	19	257	3.2	31	333	5.0	27	228	5.7
3,000	29	223	3.9	21	273	8.3	24	297	6.8	18	253	8.9	20	306	4.4	12	300	6.0	28	317	5.8	26	318	2.4	13	295	3.5	16	279	3.4	31	339	5.8	27	242	6.7
4,000	24	227	6.0	17	306	8.4	21	302	7.4	12	261	9.4	16	329	5.6	10	297	6.5	26	313	9.3	22	314	1.8				15	284	3.7	31	328	8.0	24	254	7.0
5,000	21	230	8.0	17	298	10.2	16	317	9.2				12	325	5.1				26	309	10.8	19	336	1.9				11	307	7.7	31	322	10.4	24	256	7.3
6,000	19	245	8.1	17	296	11.7	12	308	10.2				11	322	5.2				24	296	12.3	18	337	2.2							31	318	11.0	22	261	8.3
8,000	14	256	13.4																22	291	13.6	11	312	2.2							30	312	15.0	14	262	11.9
10,000	11	250	14.1																18	280	18.0										29	305	16.6	10	269	13.9
12,000																			11	276	12.3										28	294	15.4			
14,000																															28	280	11.5			
16,000																															23	269	9.0			

Altitude (meters) m.s.l.	Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			St. Louis, Mo. (181 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			5/ Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			6/ Washington, D. C. (88 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	239	2.9	31	331	1.5	28	217	2.0	12	70	0.9	31	158	4.2	29	265	4.0	31	273	2.6	31	225	2.9	31	219	1.3
500	30	235	3.2	--		- --	28	210	2.3	12	143	.4	31	160	5.0	26	274	3.0	31	284	3.3	-	-		31	238	2.1
1,000	30	238	4.1	31	336	1.8	26	207	3.8	11	166	2.0	31	160	5.2	22	287	1.2	31	283	4.7	31	227	3.6	31	255	3.2
1,500	30	222	3.7	31	327	2.0	24	207	4.6	11	242	3.8	30	169	4.8	18	323	.8	31	279	5.0	31	234	3.5	31	282	4.8
2,000	30	218	3.6	27	245	2.8	22	217	5.5				29	183	4.1	18	255	.7	31	282	6.3	23	240	4.6	31	295	6.6
2,500	30	213	3.9	24	238	4.8	21	238	4.8				21	215	5.6	16	174	.6	31	284	7.3	13	245	8.0	31	295	8.3
3,000	30	215	4.0	24	242	6.4	21	253	5.7				19	254	5.1	16	256	1.5	31	291	9.4	13	253	9.2	31	292	9.7
4,000	29	233	6.0	18	237	7.1	19	280	7.7				16	264	7.7	14	263	3.5	31	291	11.5	10	269	13.5	31	291	10.1
5,000	27	254	6.7	16	251	8.8	18	295	8.4				12	257	8.1	13	287	6.8	31	296	12.9	10	271	17.6	31	287	10.4
6,000	25	262	10.7	15	245	12.2	16	296	9.5							12	300	9.5	31	295	14.5				31	286	12.0
8,000	16	280	11.1	13	259	18.0	16	292	13.1							12	285	12.8	29	294	17.1				31	283	15.0
10,000	15	268	16.2				13	284	15.2										27	286	19.9				31	286	19.9
12,000																			28	284	18.8				30	289	19.0
14,000																			26	285	12.3				29	280	17.6
16,000																			24	300	9.6				28	299	9.3

1/ Rawin Data (May 1-16) Cont'd.

18,000 m., 12 obs., 240 dir., 5.7 speed
20,000 m., 11 obs., 202 dir., 1.2 speed
22,000 m., 11 obs., 40 dir., 1.1 speed

2/ Rawin Data (Cont'd.)

18,000 m., 20 obs., 314 dir., 6.0 speed
20,000 m., 16 obs., 313 dir., 2.6 speed
22,000 m., 14 obs., 301 dir., 2.4 speed

3/ Rawin Data (May 1-16)

4/ Rawin Data (Cont'd.)

18,000 m., 22 obs., 261 dir., 5.5 speed
20,000 m., 21 obs., 260 dir., 2.5 speed
22,000 m., 17 obs., 188 dir., .7 speed
24,000 m., 15 obs., 140 dir., .6 speed
26,000 m., 12 obs., 165 dir., .7 speed

5/ Rawin Data (Cont'd.)

18,000 m., 19 obs., 294 dir., 7.1 speed
20,000 m., 16 obs., 292 dir., 3.0 speed
22,000 m., 11 obs., 353 dir., 2.2 speed

6/ Rawin Data (Cont'd.)

18,000 m., 25 obs., 302 dir., 5.3 speed
20,000 m., 24 obs., 300 dir., [illegible] speed
22,000 m., 21 obs., 277 dir., 1.5 speed
24,000 m., 15 obs., 310 dir., [illegible] speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T., directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Table 22

Altitude (meters) m s l	Albuquerque, N. Mex. (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)			El Paso, Tex. (1,195 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	226	1.2	31	187	3.5	28	180	2.4	31	56	5.2	31	99	1.5	31	124	6.4	31	255	1.3	31	182	3.1	31	329	0.2	31	152	1.9	31	131	1.6	31	269	3.5
500	--	---	----	30	122	2.9	28	183	3.9	31	80	6.7	--	---	----	30	145	9.8	30	276	4.9	31	181	4.9	30	264	1.9	31	193	3.8	31	145	4.1	--	---	----
1,000	--	---	----	30	113	4.0	25	203	3.5	31	83	6.1	29	142	1.3	30	150	8.1	29	297	6.3	31	191	3.2	30	280	5.5	31	221	1.8	31	179	4.1	--	---	----
1,500	--	---	----	30	114	5.2	25	202	3.6	31	83	4.4	29	211	2.5	30	157	5.5	29	297	7.1	30	197	1.5	31	292	6.8	31	281	2.1	31	201	3.7	28	262	5.5
2,000	31	249	4.1	29	116	6.4	25	205	3.9	31	86	3.4	28	226	3.0	30	155	3.5	28	300	6.7	30	224	1.5	29	300	7.4	31	306	3.4	31	222	3.6	29	263	6.6
2,500	31	253	4.9	29	122	7.2	25	205	4.2	31	94	2.0	29	249	4.6	30	167	2.0	28	305	7.0	30	236	2.5	29	293	8.6	29	308	4.0	31	249	4.7	30	265	7.0
3,000	31	254	4.8	29	129	7.7	24	226	4.3	30	108	1.2	27	256	5.9	31	232	1.7	28	308	8.1	30	246	3.3	29	298	10.1	27	296	3.5	31	254	4.6	29	258	7.5
4,000	30	244	6.1	29	141	6.4	24	243	6.2	30	190	1.3	26	259	8.1	30	267	4.3	29	303	10.3	30	279	5.2	29	297	11.1	28	293	4.8	31	271	5.2	30	245	9.0
5,000	29	239	7.0	28	159	5.3	23	256	8.0	30	208	2.8	25	260	7.8	30	277	6.6	30	303	12.6	29	284	6.6	29	295	13.3	27	277	6.0	31	272	6.2	23	238	10.8
6,000	27	253	8.8	28	177	4.4	23	265	10.5	30	228	4.0	24	262	10 1	28	275	7.1	30	307	13.9	29	283	7.1	28	291	14.6	26	294	6.4	31	263	7.6	20	250	11.1
8,000	20	251	9.1	29	175	2.9	17	291	10.3	30	219	6.1	20	264	11.3	27	274	11.4	28	303	17.0	25	286	10.5	25	282	14.5	23	287	9.9	31	268	13.1	10	274	15.3
10,000	11	281	12.3	26	222	4.9	13	264	17.0	30	214	5.1	20	254	14.4	20	280	13.2	25	298	20.7	25	297	13.4	20	283	15.9	24	282	11.8	30	262	17.4			
12,000				25	208	4.3				30	224	3.0	17	256	18.1	16	288	20.0	22	294	19.4	23	297	16.9	15	280	15.1	21	285	18.1	30	259	20.4			
14,000				24	202	3.4				30	214	2.6	14	255	12.0				17	308	11.7	22	284	17.8	14	279	11.2	16	290	16.6	30	265	17.5			
16,000				23	222	3.2				29	214	2.5	11	274	7.9				13	323	7.0	17	295	8.7	11	300	5.6	17	281	10.8	26	274	9.0			
18,000				21	180	2.0				29	209	1.6										14	4	1.3	10	323	3.7	18	279	5.2	23	272	3.7			
20,000				20	161	1.8				25	199	1.2										13	78	4.8				15	304	1.1	21	334	1.1			
22,000				16	124	2.4				20	153	1.8										11	87	6.0				11	251	.8	17	51	1.8			
24,000																															14	74	1.8			

	Fairbanks, Alaska (135 m.)			Ft. Huachuca, Ariz. (1,428 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)		
Surface	31	265	1.5	30	247	2.6	31	125	0.9	31	143	0.2	31	153	0.9	31	66	0.5	30	136	1.0	31	329	4.0	31	111	1.5	31	136	1.8	31	229	2.9	31	82	0.4
500	30	247	2.3	--	---	----	--	---	----	31	255	1.3	30	233	2.8	31	83	.5	29	167	2.8	31	330	4.7	31	110	2.5	--	---	----	29	261	5.8	31	181	1.7
1,000	30	250	1.7	--	---	----	--	---	----	31	272	3.0	29	267	2.9	31	209	2.1	29	191	3.7	31	324	5.4	31	93	2.4	31	155	3.0	29	278	5.3	31	210	2.9
1,500	30	217	2.0	28	250	3.1	30	142	.7	31	285	4.4	30	288	4.3	31	238	4.2	29	213	3.6	31	321	4.6	31	61	1.9	31	173	5.3	28	302	6.0	30	229	3.9
2,000	31	205	2.9	28	247	5.3	30	205	3.2	31	295	5.7	31	291	5.1	31	258	5.5	26	247	2.6	31	312	3.6	31	20	1.9	31	189	4.9	27	304	6.5	29	241	3.7
2,500	31	193	3.4	28	237	5.2	30	218	3.7	31	295	5.9	30	305	5.0	31	268	6.3	26	262	3.4	31	311	3.5	31	14	2.5	31	224	5.0	27	297	7.4	29	249	4.9
3,000	31	189	3.1	29	229	5.4	31	228	5.2	31	300	6.7	30	308	6.0	31	273	6.7	26	276	4.4	31	307	5.2	31	356	2.7	31	245	5.9	27	291	8.2	30	257	4.9
4,000	31	194	3.7	29	233	7.3	30	223	6.8	31	304	7.3	30	296	6.4	31	273	8.8	26	284	6.9	31	305	9.3	31	330	2.9	30	264	7.8	29	280	9.6	30	266	5.9
5,000	31	197	3.5	29	244	8.4	28	240	7.6	30	304	7.9	29	299	6.2	30	273	10.3	26	287	6.4	31	298	11.3	31	319	5.1	28	259	10.9	29	282	11.6	31	275	5.9
6,000	31	198	3.3	29	251	11.4	27	247	8.3	30	304	8.5	29	304	7.7	30	272	11.9	25	282	8.4	31	297	13.2	30	303	5.2	28	253	13.2	27	282	14.0	30	274	8.4
8,000	30	205	3.8	27	258	17.6	18	239	7.9	28	292	11.8	28	296	10.4	29	271	15.8	21	279	11.2	25	288	15.1	29	292	7.4	27	260	16.7	19	289	12.1	26	289	10.6
10,000	27	205	4.4	25	257	23.0	16	251	9.7	25	289	16.0	26	286	11.8	29	277	19.7	20	283	12.9	17	295	13.5	28	296	9.6	24	262	19.6	15	314	13.5	24	289	14.3
12,000	26	213	4.6	23	256	28.5	14	256	12.9	23	290	18.7	24	280	14.3	28	276	19.9	19	274	16.9	16	283	14.4	26	291	13.6	20	263	22.2	14	322	14.9	18	290	15.5
14,000	26	210	3.9	14	249	25.0	13	257	14.7	17	301	14.1	22	295	11.0	25	273	14.7	15	288	19.9	12	262	6.7	23	283	14.7	14	261	22.4	12	291	10.9	18	298	15.2
16,000	25	188	3.0										22	295	8.0	16	271	8.3	10	298	12.2	11	257	4.0	20	294	7.4	11	260	15.4	10	303	6.6	15	300	9.0
18,000	24	198	2.9										21	287	4.4	13	276	4.6				10	253	3.9	13	332	1.1							13	292	2.9
20,000	23	161	1.3										19	309	1.7	12	310	3.1																11	19	3.2
22,000	18	147	1.8										18	114	1.0																			11	54	.7
24,000													11	346	1.0																					

	Nome, Alaska (7 m.)			Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul, Is. Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is, Wash. (31 m.)		
Surface	31	57	0.6	31	271	3.4	30	116	2.6	31	345	1.6	31	169	0.7	30	356	3.7	31	139	4.1	31	127	2.4	31	300	3.3	31	267	1.2	31	228	1.8	31	251	4.0
500	31	85	3.3	31	288	4.0	30	125	3.8	--	---	----	31	184	2.1	27	39	3.0	31	135	7.3	31	103	6.2	31	315	3.9	31	272	2.8	--	---	----	30	269	5.6
1,000	31	116	3.6	31	309	4.8	29	165	5.7	31	347	1.6	31	230	4.0	27	40	2.3	31	146	7.2	31	108	6.4	31	334	4.7	31	272	4.1	31	240	3.6	30	268	5.2
1,500	31	125	4.5	31	324	4.5	29	188	5.4	31	263	1.0	31	246	4.7	28	35	1.9	31	157	5.9	31	105	5.9	31	357	4.2	31	279	5.3	31	251	5.0	30	264	4.9
2,000	31	131	4.5	31	340	4.3	29	216	5.2	31	206	2.3	30	254	5.4	28	32	1.4	31	184	4.2	31	103	5.5	31	5	4.1	31	284	6.8	31	246	5.3	30	270	4.6
2,500	31	137	5.2	31	337	4.5	28	252	4.5	31	214	4.1	30	257	6.0	28	18	1.1	31	220	3.6	31	104	5.4	31	350	4.5	31	290	8.0	31	243	5.4	30	270	5.5
3,000	31	134	5.4	31	341	5.7	28	270	4.8	31	241	5.2	30	268	6.2	28	301	.3	31	246	4.9	29	115	3.4	31	342	5.5	31	292	9.0	31	245	5.9	31	272	7.3
4,000	30	139	6.0	30	338	8.2	29	274	6.0	30	262	7.6	29	273	7.2	30	260	1.7	31	258	8.2	29	181	2.0	29	326	6.5	31	293	10.8	31	249	7.5	31	278	9.8
5,000	29	138	6.4	30	326	9.2	29	278	7.8	30	261	8.7	28	276	8.6	30	270	3.8	30	268	9.8	29	233	3.0	28	316	6.5	30	297	12.0	31	251	9.7	31	278	13.5
6,000	30	144	7.2	30	325	9.7	28	270	8.5	30	257	10.7	27	275	9.4	30	258	4.0	30	262	10.9	28	246	6.5	27	315	8.3	30	298	12.9	31	250	11.6	31	286	16.1
8,000	29	152	6.0	30	312	13.9	26	270	11.9	30	252	12.9	24	276	9.8	28	278	7.7	27	270	17.8	25	249	13.6	22	307	8.1	29	287	16.5	28	245	12.3	31	289	23.6
10,000	27	162	3.7	29	311	16.3	23	267	14.8	30	239	15.9	24	283	12.5	28	253	8.9	25	269	20.1	25	256	19.3	19	281	9.5	29	283	18.8	28	267	14.9	27	281	28.5
12,000	25	147	3.4	29	304	13.8	22	266	18.7	30	242	16.3	24	271	14.2	28	249	5.8	20	278	23.6	25	253	26.1	18	279	11.7	28	286	18.0	28	268	14.5	24	275	25.4
14,000	25	157	3.4	27	289	9.8	18	276	17.9	29	244	11.5	24	270	12.1	28	232	4.2	16	276	24.6	23	259	24.2	18	274	10.2	22	287	12.4	27	263	9.9	25	272	16.3
16,000	24	143	3.0	24	274	7.2	18	269	13.5	27	252	8.2	24	272	7.5	29	233	3.6	15	273	16.9	18	259	15.2	18	276	8.0	19	308	6.7	23	253	7.0	25	262	10.2
18,000	23	141	3.3	22	278	3.4	13	275	1.4	20	242	4.6	25	267	3.2	29	203	2.6				16	186	2.2	18	261	4.5	16	321	3.3	22	255	3.6	25	253	6.0
20,000	21	110	3.1	18	323	.6	10	21	1.6	14	192	1.4	22	293	1.8	28	185	2.3				14	133	3.5	14	335	1.0	11	348	2.3	17	223	1.1	24	256	1.7
22,000	17	113	3.7	15	48	1.5				11	148	1.0	17	57	1.1	26	171	1.8				13	77	4.9							11	72	1.0	23	117	1.1
24,000	14	96	4.6	11	49	1.8							11	100	2.4							11	96	3.8							10	43	1.8	19	43	.5

	Washington, D. C. (88 m.)			Yakutat, Alaska (12 m.)		
Surface	31	202	1.2	31	111	3.5
500	31	248	3.5	31	133	6.2
1,000	31	277	5.2	29	142	7.0
1,500	31	295	5.9	28	149	6.4
2,000	31	292	6.2	28	152	6.0
2,500	31	297	6.4	27	154	5.4
3,000	31	292	6.9	27	166	5.1
4,000	31	286	8.4	27	176	4.2
5,000	31	291	10.1	27	185	3.9
6,000	31	287	12.0	27	204	3.1
8,000	30	285	13.6	26	274	5.1
10,000	30	284	15.8	24	279	7.0
12,000	30	285	16.7	23	250	5.9
14,000	30	290	16.5	22	254	5.3
16,000	26	296	8.3	18	234	4.0
18,000	26	310	5.5	19	231	2.2
20,000	26	328	1.8	17	228	1.5
22,000	25	332	.6	14	307	.5
24,000	24	322	1.8			
26,000	17	321	1.8			

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

able 22 *Air Force Data for January 1955

Altitude (meters) m s l	Denver, Colo. (1,661 m)			Ft. Worth, Tex. ([illegible] m)			Ogden, Utah (1,451 m)			Rantoul, Ill. (227 m)			Rome, N. Y. (146 m)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
urface	31	185	[illegible]	31	25	0.2	10	97	1.2	31	263	1.8	[illegible]	29[illegible]	[illegible]
00	-	---		31	180	1.8				30	[illegible]	4.[illegible]	[illegible]	[illegible]	3.[illegible]
,000	--	---	-	31	235	4.1			-	30	[illegible]	6.6	31	267	6.[illegible]
,500	--		-	31	253	6.6	10	[illegible]	1.1	30	283	8.6	31	292	8.[illegible]
,000	28	262	4.0	31	265	9.2	10	262	2.[illegible]	30	[illegible]	10.[illegible]	31	295	9.[illegible]
,500	29	282	6.4	31	269	10.7	10	220	3.1	30	267	13.[illegible]	31	292	1[illegible]
,000	29	282	7.2	31	269	11.6	10	226	4.[illegible]	30	266	16.0	31	290	12.[illegible]
,000	31	302	9.0	31	267	14.5	10	249	6.4	30	281	20.0	31	29[illegible]	14.5
,000	31	302	11.2	31	267	18.4				30	273	2[illegible].0	31	[illegible]	17.4
,000	31	299	13.2	31	262	22.0				30	279	24.5	31	[illegible]	18.[illegible]
,000	31	298	17.2	31	262	31.8				30	279	34.6	29	280	2[illegible].2
0,000	31	281	22.3	31	259	41.0				26	277	41.7	26	28[illegible]	31.6
2,000	30	277	26.4	31	260	44.3				25	27[illegible]	37.5	25	286	31.6
4,000	30	273	21.0	30	256	35.1				22	272	28.[illegible]	21	282	25.2
6,000	27	278	14.6	25	249	27.4				19	273	22.5	21	271	17.4
8,000	24	284	6.7	19	256	17.9				12	269	17.1	19	267	13.3
0,000	13	269	4.9	12	251	8.8				10	270	11.1	11	262	10.1

* February data for the above Air Force Stations will be included in the June issue of this publication

These free-air resultant winds are based on rawin observations made near 0300 G.C.T., directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

Date	Sun's zenith distance								
	A M				0.0°	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.08	3.26	2.44	1.63	*1.0	1.63	2.44	3.26	4.08
May									
3	0.67	0.77	0.89	1.03	----	1.03	0.89	0.78	0.71
4	.92	1.01	1.13	1.25	----	----	----	----	----
6	.75	.83	.94	1.12	----	----	----	----	----
9	.71	.85	.97	1.15	----	----	----	----	----
12	.69	.86	.96	1.09	----	1.20	1.00	.87	.78
14	.59	.73	.86	1.06	----	----	----	.63	.51
15	.54	.68	.86	1.14	----	D1.00	D.83	D.75	D.67
16	.78	.86	1.01	1.16	----	1.16	.96	.83	.69
20	----	----	----	----	----	1.15	.96	----	----
21	.65	.76	.90	1.07	----	----	----	----	----
23	----	----	----	1.04	----	----	----	----	----
26	.63	.76	.90	1.07	----	----	----	----	----
27	.74	.82	.95	1.15	----	----	----	----	----
28	.90	.97	1.09	1.22	----	----	----	----	----
29	.69	.80	.89	1.11	----	----	----	----	----
Averages	.71	.82	.95	1.11	----	1.11	.93	.77	.67
	WASHINGTON, D.C. (WBCO)								
	Air mass								
	4.96	3.97	2.98	1.99	*0.99	1.99	2.98	3.97	4.96
May									
2	----	----	----	0.96	1.29	----	----	----	----
9	----	----	----	1.21	1.51	----	----	----	----
16	----	----	----	1.00	----	----	----	----	----
18	----	----	----	----	1.43	----	----	----	----
19	----	----	----	1.13	----	----	----	----	----
26	----	----	----	** .94	----	----	----	----	----
27	----	----	----	** .79	----	----	----	----	----
Averages	----	----	----	1.00	1.41	----	----	----	----

D Dust within 45 degrees of sun at time of reading
% Smoke and haze
# Haze
** Smoke
& Values reduced due to dust in the air
* Extrapolated

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	BLUE HILL, MASS.								
	Air mass								
	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
May									
1	0.65	0.75	0.88	1.04	----	----	----	----	----
2	----	----	----	.99	%	----	----	----	----
3	----	----	----	.91	----	0.92	0.74	0.58	%0.48
7	.70	.78	.91	1.07	----	----	----	----	----
10	----	----	----	1.23	----	1.18	1.02	.90	----
11	----	----	----	----	----	1.02	----	----	----
12	.73	.79	.94	1.12	----	----	----	----	----
17	----	----	----	----	----	1.12	.91	.80	.70
18	.83	.92	1.00	1.13	----	----	----	----	----
19	----	----	----	1.02	----	----	----	----	----
20	.64	.75	.91	1.09	----	1.05	.88	----	----
21	.64	.74	.90	1.05	----	1.10	.90	.80	.71
22	.57	.67	.83	1.00	----	----	----	----	----
Averages	.68	.77	.91	1.06	----	1.07	.89	.77	.63
	LINCOLN, NEBR.								
	Air mass								
	4.77	3.81	2.86	1.91	*0.95	1.91	2.86	3.81	4.77
May									
4	----	----	----	----	----	1.01	0.82	0.71	0.60
6	----	----	----	----	----	&.97	&.77	&.62	&.56
7	----	----	----	----	----	1.17	.99	.86	.75
Averages	----	----	----	----	----	1.05	.86	.73	.64
	TABLE MOUNTAIN, CALIF.								
	Air mass								
	3.76	3.01	2.26	1.51	*0.75	1.51	2.26	3.01	3.76
May									
#3	----	----	----	1.37	----	----	----	----	----
#27	----	----	----	1.36	----	----	----	----	----
Averages	----	----	----	1.36	----	----	----	----	----

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of Tables 30 and 31 and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the Monthly Weather Review, vol. 72, No. 1, January 1944, p. 43. A list of pyrheliometric stations is given on page 45 of that issue. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

MAY 1955

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
te	7	8	9	10	11	12	13		14	15	16	17	18	19	20		21	22	23	24	25	26	27	
ngleys	[illegible]	[illegible]	139	122	[illegible]	126	[illegible]	[illegible]	[illegible]	[illegible]	126	[illegible]	[illegible]	[illegible]	[illegible]	145	[illegible]	159	161	[illegible]	154	[illegible]	155	147
te	28	29	30	31	1	2	3																	
ngleys	[illegible]	[illegible]	130	[illegible]	146	[illegible]	141	[illegible]																

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
ate	7	8	9	10	11	12	13		14	15	16	17	18	19	20		21	22	23	24	25	26	27	
angleys	390	[illegible]	208	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	242	161	[illegible]	[illegible]
ate	28	29	30	31	1	2	3																	
angleys	265	278	137	158	310	[illegible]	[illegible]	[illegible]																

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
ate--	7	8	9	10	11	12	13		14	15	16	17	18	19	20		21	22	23	24	25	26	27	
angleys	[illegible]	83	204	[illegible]	[illegible]	267	247	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	277	[illegible]	[illegible]	242	[illegible]	[illegible]	141	264	245
ate	28	29	30	31	1	2	3																	
angleys	[illegible]	278	157	207	210	113	[illegible]	[illegible]																

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	7	8	9	10	11	12	13		14	15	16	17	18	19	20		21	22	23	24	25	26	27	
Langleys	366	172	216	[illegible]	[illegible]	[illegible]	252	[illegible]	338	452	243	488	[illegible]	[illegible]	414	372	441	345	283	323	359	131	269	307
Date	28	29	30	31	1	2	3																	
Langleys	422	414	252	243	[illegible]	[illegible]	307	272																

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	7	8	9	10	11	12	13		14	15	16	17	18	19	20		21	22	23	24	25	26	27	
Langleys	228	138	[illegible]	98	159	140	267	[illegible]	205	[illegible]	202	144	129	206	118	159	102	210	270	227	344	216	162	219
Date	28	29	30	31	1	2	3																	
Langleys	133	175	131	276	238	158	280	199																

Note: Langley is the unit used to denote one gram calorie per square centimeter

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

MAY 1955

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Langleys	272	353	338	352	331	320	339	310	360	372	•307	•217	•26	•91	323	277	350	•369	333	409	230	•176	•271
Date	24	#25	26	27	28	29	30	31	Avg														
Langleys	•245	•259	348	370	336	•270	258	337	295														

• Estimated values owing to occurrence of rain during period. While rain is falling radiation is assumed to be zero

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Raleigh State College. The instrument with which they were measured has not been checked by the Weather Bureau

Alfalfa mowed

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. MAY 1955

	Aklavik, MacKenzie	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Columbus, Ohio	Davis, Calif.	Dodge City, Kans.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Grand Junction,Colo.	Grand Lake, Colo.
1955																																
May 7------	525	529	508	671	476	596	451	420	746	662	694	615	661	635	191	(574)	487	---	445	158	749	457	599	603	696	431	435	661	202	439	592	583
May 8------	723	156	432	(702)	560	641	486	560	583	148	729	191	646	---	51	644	696	---	639	593	362	494	268	372	(441)	---	469	622	294	689	208	135
May 9------	667	742	270	691	643	712	613	588	723	342	734	408	601	---	229	718	552	---	487	716	561	295	322	587	(552)	784	617	355	497	517	639	402
May 10------	(477)	437	411	719	221	519	639	446	748	695	666	710	480	617	735	690	151	---	316	720	268	103	713	608	749	790	625	165	(732)	642	636	608
May 11------	(610)	755	582	(722)	194	562	665	319	711	645	604	659	388	629	550	565	688	---	526	713	196	674	673	421	643	(736)	585	348	747	598	804	669
May 12------	725	799	753	625	---	431	618	149	727	624	474	647	413	608	---	269	693	---	438	641	810	595	614	387	779	671	499	(552)	747	532	805	520
May 13------	(616)	649	739	715	---	355	505	208	639	491	602	347	613	511	585	472	367	---	106	701	826	369	523	160	808	---	212	686	644	592	627	574
Averages------	(621)	581	528	(692)	419	545	568	384	697	515	643	511	543	600	390	(562)	519	---	422	606	539	427	530	448	(667)	(683)	492	(484)	(552)	573	616	499
May 14------	(525)	796	557	657	598	629	536	326	433	631	227	562	648	457	535	447	651	---	498	748	674	741	---	691	780	438	482	605	747	439	781	513
May 15------	697	824	252	505	509	208	640	433	504	706	281	704	465	507	764	407	822	699	740	742	707	735	694	637	826	550	525	542	758	279	687	653
May 16------	493	846	73	439	252	269	490	550	509	556	448	488	347	517	205	300	786	648	688	703	677	692	621	655	825	403	391	384	750	497	716	381
May 17------	(502)	638	505	603	238	449	456	570	626	630	713	617	451	588	464	585	815	640	763	734	449	759	591	684	816	517	467	662	741	464	441	567
May 18------	264	527	242	583	539	529	437	681	725	672	743	641	306	553	535	462	838	673	752	743	384	751	707	641	759	797	449	571	729	421	449	494
May 19------	247	544	429	615	552	538	416	623	707	558	736	541	360	596	374	641	449	694	582	712	74	531	625	619	800	784	293	297	740	444	618	266
May 20------	323	785	585	249	503	372	445	636	717	720	889	692	592	570	486	639	799	616	640	716	800	734	722	712	794	(703)	420	556	735	457	776	780
Averages------	(436)	709	378	522	456	428	489	546	603	639	577	606	453	541	481	497	737	662	666	728	538	706	660	663	800	(599)	433	517	743	429	638	522
May 21------	369	646	669	99	537	151	425	372	678	712	670	695	700	606	377	328	839	162	621	715	759	749	720	328	728	547	396	461	729	256	693	520
May 22------	607	548	787	528	759	186	475	131	618	647	762	632	620	596	683	423	515	322	414	752	722	293	697	149	756	---	619	599	733	421	276	300
May 23------	705	796	773	689	620	445	477	187	626	474	676	396	534	581	441	371	424	614	479	725	383	478	238	416	788	655	575	(561)	747	458	695	561
May 24------	730	766	148	587	771	472	497	375	223	513	471	504	619	486	376	324	343	250	392	659	760	267	599	624	796	302	493	716	634	451	695	673
May 25------	(694)	560	494	753	347	637	492	483	88	566	745	447	634	---	221	(653)	---	432	340	737	550	178	528	656	699	393	361	620	755	643	562	393
May 26------	(505)	646	694	744	---	472	501	370	116	240	218	228	594	477	461	643	---	286	568	680	538	658	491	627	809	475	163	569	750	715	639	396
May 27------	(652)	828	679	754	---	739	407	209	129	500	765	506	601	552	(720)	632	---	575	518	758	756	519	620	533	803	553	125	(566)	748	492	611	355
Averages------	(609)	684	606	593	607	443	468	304	354	522	615	487	614	550	(468)	(482)	530	377	476	718	638	449	556	476	769	488	390	(584)	728	491	596	457
May 28------	(407)	867	408	713	484	709	473	420	207	640	760	614	632	595	---	592	---	686	271	744	801	321	608	721	779	538	555	597	739	783	815	598
May 29------	669	806	714	730	225	323	675	448	748	667	669	662	303	592	166	602	---	359	614	730	836	344	---	543	738	557	373	721	726	488	851	772
May 30------	760	462	797	662	556	543	690	307	746	283	567	220	411	605	78	722	---	642	220	681	697	383	---	513	605	301	471	731	608	506	625	643
May 31------	755	643	252	785	256	773	580	283	375	391	771	400	685	608	---	(583)	---	396	787	776	752	781	226	509	455	172	430	578	443	650	568	680
June 1------	(660)	726	223	657	492	745	651	470	561	412	791	437	711	598	109	840	---	537	768	749	597	767	406	431	477	146	538	635	768	---	575	481
June 2------	(741)	829	739	761	276	750	639	---	427	163	740	161	666	---	174	727	---	561	764	746	660	723	218	575	707	723	570	(602)	749	---	593	378
June 3------	(641)	851	147	717	328	703	(551)	450	377	470	615	405	582	611	765	713	---	693	690	617	739	612	171	745	844	388	528	573	707	---	694	350
Averages------	(662)	740	469	718	374	649	(608)	396	492	432	702	414	570	601	258	(683)	---	554	588	721	726	562	326	577	658	404	495	(634)	677	---	674	557

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued MAY 1955

	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Lincoln, Nebr.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.
1955																																
May 7------	736	---	587	697	---	760	615	583	625	734	289	644	569	651	631	426	525	376	764	587	627	643	709	---	678	---	299	614	484	757	680	373
May 8------	674	---	658	759	---	726	331	508	339	595	754	825	578	590	656	496	747	---	776	659	306	563	272	---	555	531	407	778	94	424	709	512
May 9------	692	---	740	795	358	815	293	568	600	741	95	749	320	473	662	642	56	608	775	606	444	613	490	741	695	---	432	783	391	584	682	744
May 10------	402	---	613	778	327	845	320	631	811	775	253	517	586	---	235	429	441	---	773	680	439	146	723	639	473	---	640	759	709	748	448	589
May 11------	515	539	616	628	394	833	478	452	754	784	575	181	510	---	352	580	690	448	755	717	442	366	681	621	358	---	700	769	613	667	619	683
May 12------	576	340	455	337	244	810	717	---	704	750	281	186	417	519	386	605	491	195	---	720	714	315	712	736	367	354	656	781	706	665	511	691
May 13------	91	109	425	234	77	823	502	---	727	704	148	271	672	630	491	554	385	143	---	721	728	520	592	511	317	721	615	778	382	533	371	716
Averages------	527	---	585	604	280	802	465	548	652	726	342	482	522	573	488	533	477	354	769	670	529	495	597	650	492	---	536	752	483	625	574	615
May 14------	45	192	592	322	456	873	738	---	768	788	738	91	643	503	602	575	740	237	223	553	495	378	409	512	444	*	751	794	489	525	323	636
May 15------	91	588	350	751	708	854	742	---	583	803	759	744	654	331	754	680	754	203	383	436	622	261	712	772	524	---	525	823	658	563	242	792
May 16------	412	361	316	628	683	830	498	637	693	742	751	650	550	581	734	727	716	453	293	540	665	251	666	681	359	---	342	816	370	313	185	773
May 17------	494	553	356	557	711	829	748	468	705	737	775	(812)	613	481	691	690	763	510	---	342	589	588	673	773	656	---	616	784	627	459	379	769
May 18------	766	705	600	854	724	841	735	313	768	785	763	870	395	498	754	733	719	474	(770)	270	635	693	703	764	688	---	682	789	536	546	611	816
May 19------	758	675	627	817	700	853	684	218	824	765	607	846	659	404	718	715	500	455	773	447	433	573	564	573	663	---	700	778	569	767	686	756
May 20------	719	694	462	769	594	844	743	680	800	766	700	713	622	157	545	636	699	471	468	567	379	317	729	734	456	---	704	776	616	765	500	756
Averages------	469	538	472	671	654	846	698	463	734	769	728	(675)	591	423	686	680	699	401	(485)	451	546	438	637	687	541	---	617	794	552	562	418	757
May 21------	159	311	210	747	474	814	765	684	424	750	588	398	611	359	422	418	712	613	---	676	718	360	721	727	356	---	732	516	727	725	719	556
May 22------	628	393	204	416	296	815	454	669	701	663	270	440	647	619	230	263	128	331	800	622	183	562	694	573	309	---	520	790	678	608	680	319
May 23------	287	497	449	438	557	843	342	408	737	777	574	---	349	277	367	145	618	231	577	661	695	607	229	212	541	---	287	791	459	715	456	537
May 24------	308	420	582	616	269	506	555	526	433	601	156	253	667	580	278	150	262	395	738	592	702	323	599	613	275	---	[illegible]	816	159	546	517	203
May 25------	687	516	601	812	402	832	363	693	164	702	460	793	260	610	674	349	251	---	272	630	706	501	521	476	624	---	[illegible]	721	488	213	539	658
May 26------	(564)	763	520	822	543	839	181	670	620	804	469	789	334	430	520	391	330	---	554	687	709	641	132	595	713	-	[illegible]	793	[illegible]	129	269	604
May 27------	93	650	762	818	478	832	723	687	534	783	574	663	532	462	592	553	530	233	843	728	700	513	584	[illegible]	613	[illegible]	[illegible]	794	[illegible]	522	745	641
Averages------	(389)	507	475	667	431	783	483	620	516	726	442	556	486	477	440	324	104	361	631	657	673	501	540	561	494	--	428	746	[illegible]	470	561	503
May 28------	794	625	720	789	103	856	649	645	869	813	428	578	397	174	616	673	347	353	819	648	682	391	502	637	644	--	585	[illegible]	679	543	618	723
May 29------	690	547	444	800	323	722	234	452	827	589	174	786	370	764	389	643	264	397	804	581	704	678	[illegible]	[illegible]	370	-	501	[illegible]	[illegible]	800	541	678
May 30------	410	529	594	365	465	515	348	765	772	565	740	325	745	718	188	(191)	708	361	783	451	651	315	225	599	491	---	287	747	325	713	468	291
May 31------	653	740	812	630	758	877	199	700	580	765	748	887	546	663	474	(261)	750	400	789	437	571	737	413	247	727	---	441	[illegible]	176	647	534	465
June 1------	796	770	783	839	726	869	263	695	195	694	651	845	683	708	677	523	489	147	821	518	471	737	668	492	732	---	---	826	[illegible]	355	694	649
June 2------	599	754	786	761	593	869	417	596	659	765	386	796	360	663	733	717	120	423	831	---	536	655	335	382	668	---	---	823	[illegible]	711	661	775
June 3------	329	723	757	714	688	840	682	612	490	728	627	855	355	679	751	730	600	304	538	711	695	660	409	389	689	---	703	820	708	292	673	791
Averages------	610	670	699	700	522	793	399	638	627	694	536	725	494	624	547	(534)	468	383	769	558	616	596	411	512	618	---	[illegible]	772	427	580	598	625

Note.--Langley is the unit used to denote one gram calorie per square centimeter. * Recorder inoperative.
Values in parentheses are interpolated.

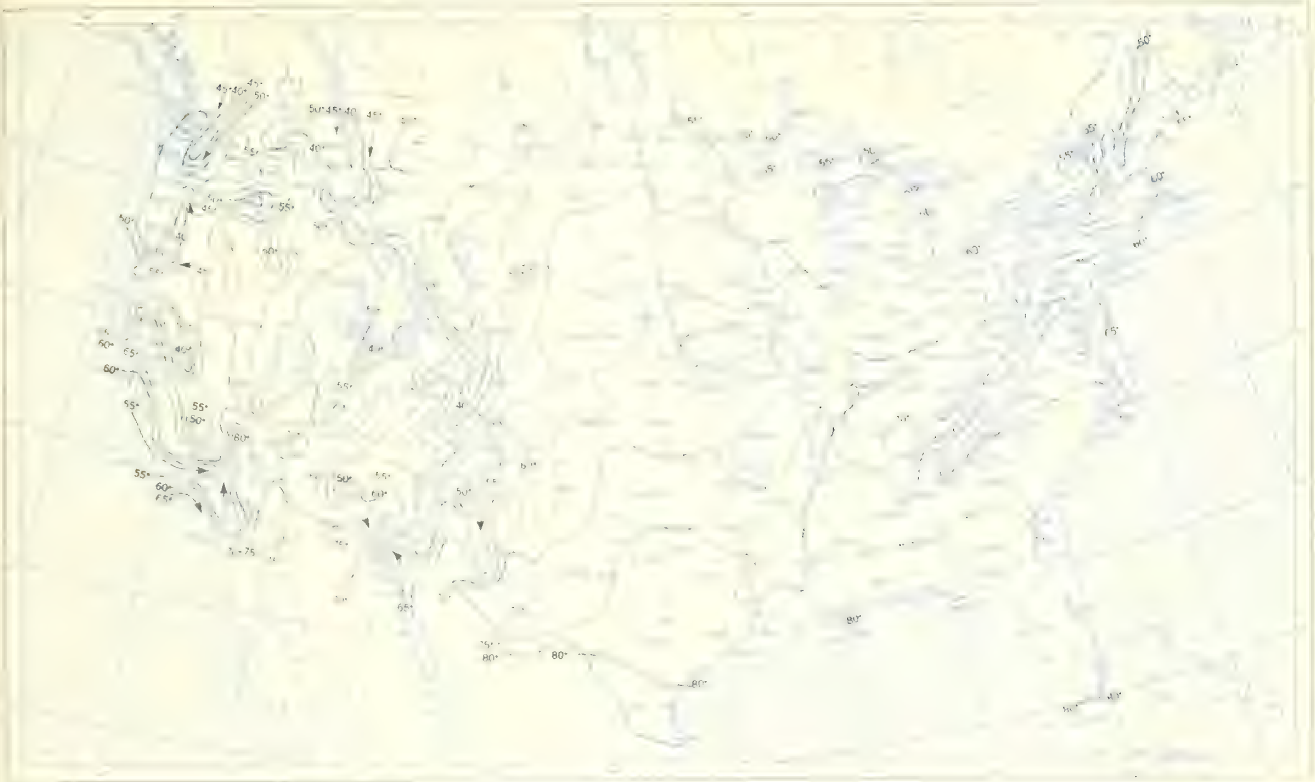
SOLAR RADIATION DATA

Table 33 -Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys -Continued MAY 1955

	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (U. of W.	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Toronto, Ontario	Upton, N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
1955																			
May 7------	518	408	315	490	757	601	706	339	433	758	563	604	688	643	348	725	713	694	351
May 8------	732	606	737	521	378	474	439	564	702	767	599	444	672	660	385	328	587	(479)	724
May 9------	86	448	(646)	549	538	424	685	590	662	629	649	218	663	688	643	489	651	716	455
May 10------	714	150	704	247	692	590	190	179	186	402	128	305	681	677	158	658	721	539	686
May 11------	676	621	594	751	(761)	586	509	311	263	589	502	204	417	684	699	691	715	478	711
May 12------	722	636	573	816	770	658	687	453	(683)	507	600	314	616	681	593	734	---	666	579
May 13------	715	659	734	799	595	517	235	259	308	297	289	701	608	703	542	528	700	145	488
Averages------	594	504	(615)	596	(641)	550	493	385	(462)	564	476	399	621	677	481	593	681	(531)	571
May 14------	709	672	816	---	598	644	334	653	697	261	442	686	514	466	742	599	596	194	147
May 15------	718	569	818	(508)	777	599	696	177	236	290	696	228	665	679	644	721	490	589	159
May 16------	701	355	799	642	710	275	739	202	212	426	642	---	694	682	472	689	677	719	522
May 17------	704	585	801	798	716	474	527	340	433	277	709	---	703	646	720	(688)	610	539	492
May 18------	669	342	776	726	781	646	740	310	425	561	711	---	687	499	691	758	---	744	693
May 19------	722	681	754	802	634	576	611	196	217	757	318	33	671	381	760	(601)	---	(643)	635
May 20------	695	736	698	780	775	646	687	424	527	597	573	121	673	---	681	756	(615)	520	661
Averages------	702	563	730	(709)	713	551	619	329	392	453	584	267	658	559	673	(688)	(598)	(564)	473
May 21------	620	743	169	771	774	648	676	273	(320)	794	707	---	663	391	727	750	672	683	668
May 22------	619	531	568	406	341	490	448	387	553	596	279	658	---	646	450	547	705	313	186
May 23------	312	432	703	474	276	278	361	574	473	362	365	523	660	657	462	360	711	500	241
May 24------	757	552	228	193	653	422	612	614	609	632	519	724	602	585	608	542	---	657	347
May 25------	486	588	824	741	652	203	543	223	357	760	301	195	729	691	106	648	---	529	319
May 26------	85	526	689	669	511	255	524	319	557	347	498	610	708	679	359	537	---	587	281
May 27------	220	362	754	336	748	462	333	509	763	735	618	755	669	591	638	701	---	655	114
Averages------	443	533	562	513	565	394	500	414	(519)	604	469	578	576	606	479	584	---	560	308
May 28------	217	567	(773)	275	473	585	423	484	568	732	513	775	729	698	452	576	---	432	457
May 29------	638	565	772	287	612	257	640	230	306	504	365	779	673	558	548	646	---	---	763
May 30------	671	653	166	820	348	526	643	312	320	487	482	709	753	739	216	334	---	552	625
May 31------	628	590	472	806	474	232	---	482	530	419	224	503	395	699	425	419	---	(454)	624
June 1------	208	678	667	792	560	164	---	520	521	666	439	614	(682)	697	768	595	---	641	125
June 2------	235	582	805	777	357	5	456	92	143	676	561	577	693	702	710	366	---	504	192
June 3------	309	476	803	380	494	663	---	168	305	710	715	556	712	759	708	533	---	486	351
Averages------	415	587	(637)	591	474	347	309	327	385	599	471	649	(662)	693	547	496	---	(511)	448

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

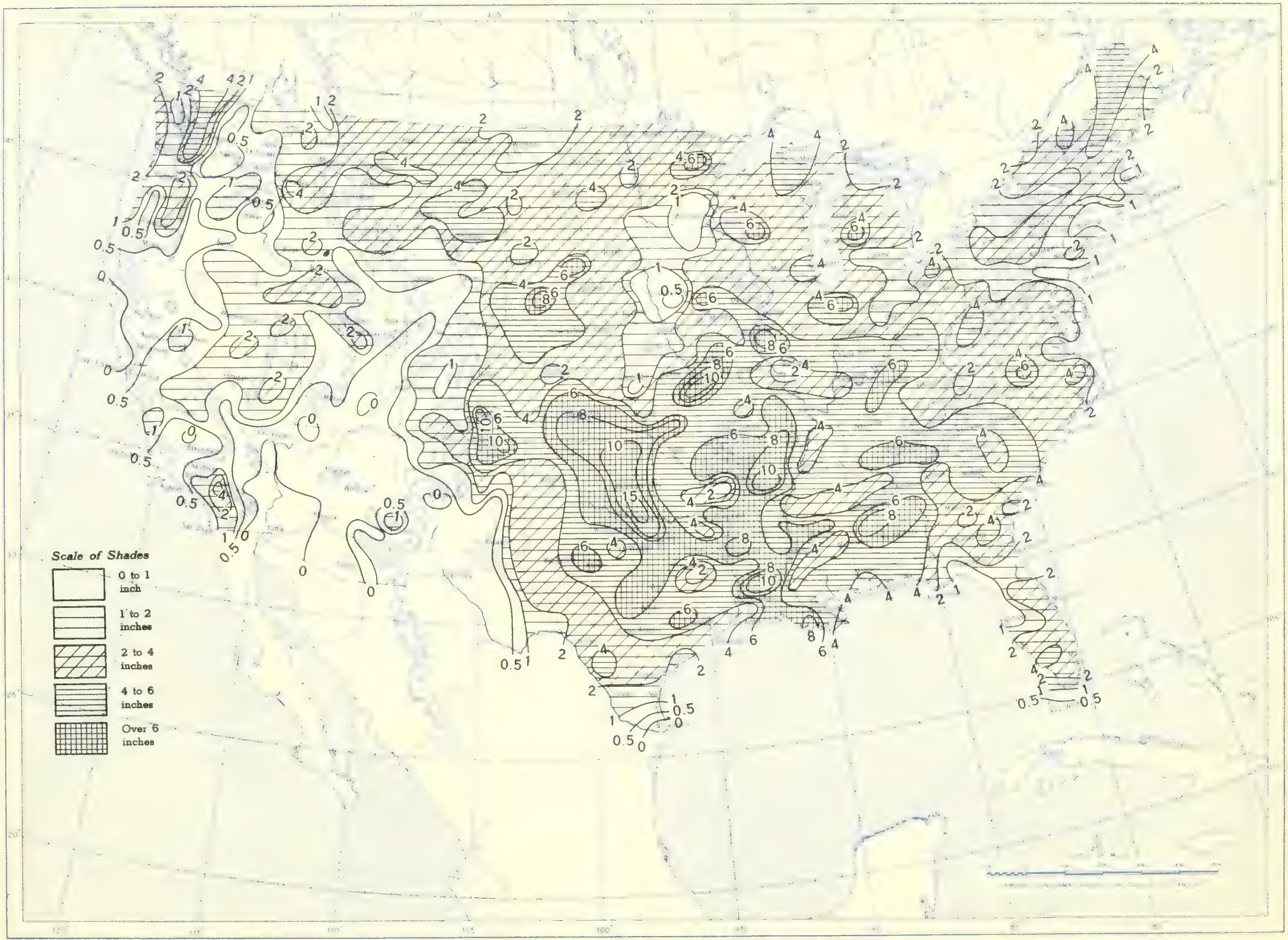
Chart I. A. Average Temperature (°F.) at Surface, May 1955.



B. Departure of Average Temperature from Normal (°F.), May 1955.

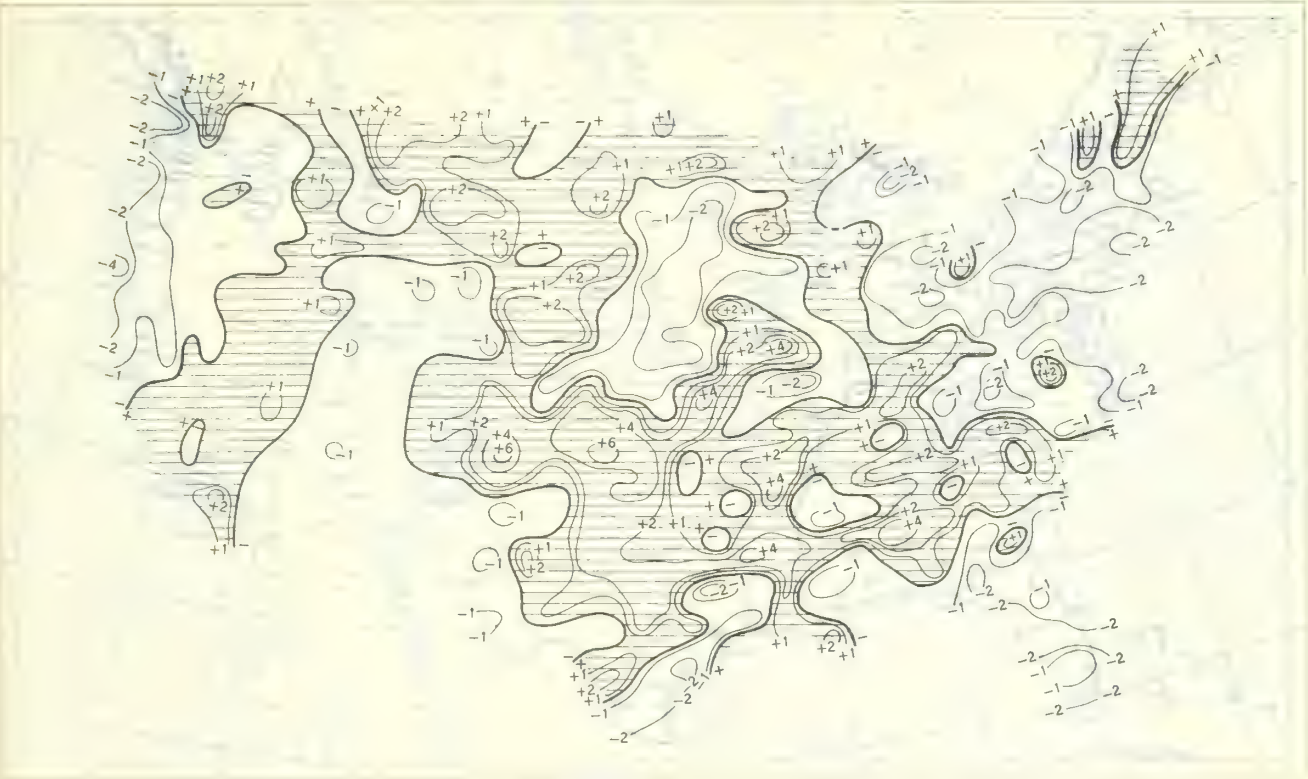
A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the montl y average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respecti ly.
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of re rd.

Chart II. Total Precipitation (Inches), May 1955.

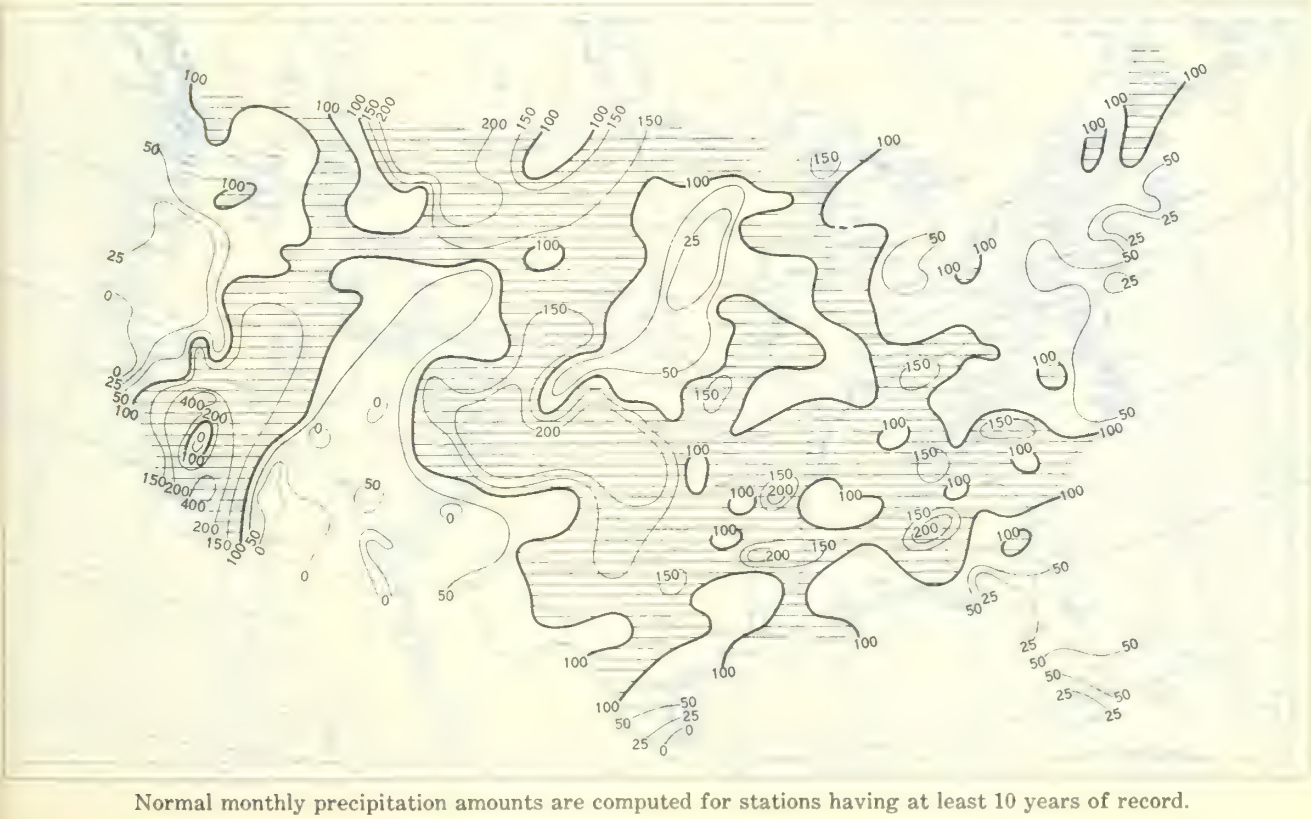


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), May 1955.

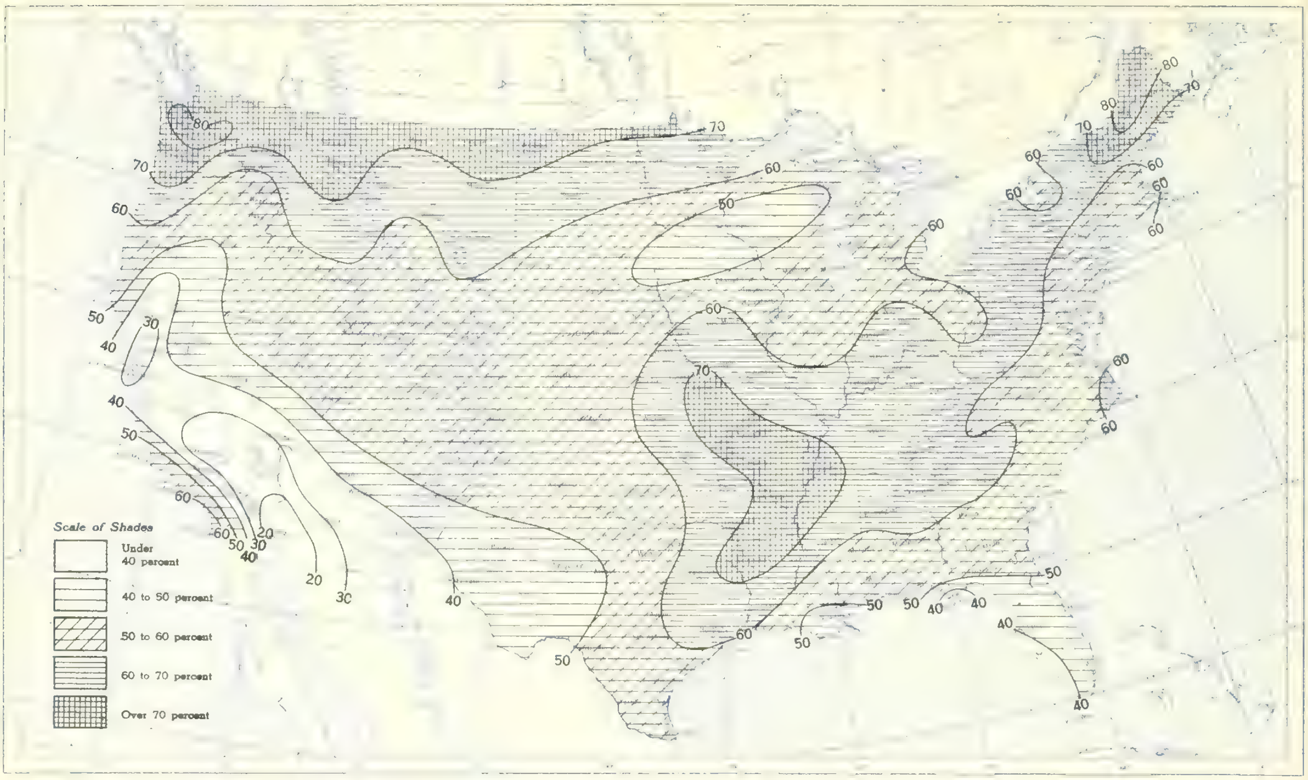


B. Percentage of Normal Precipitation, May 1955.

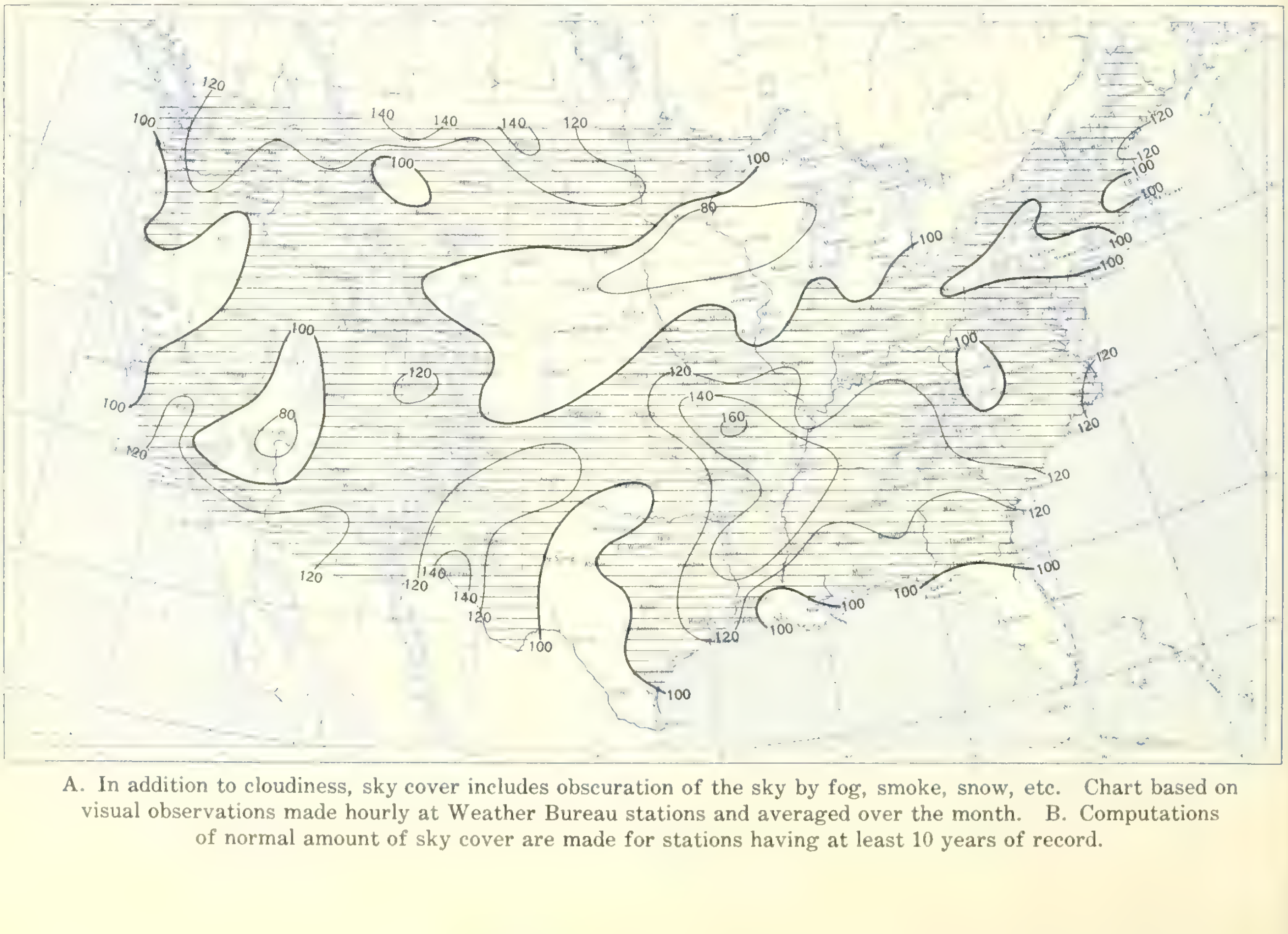


Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, May 1955.

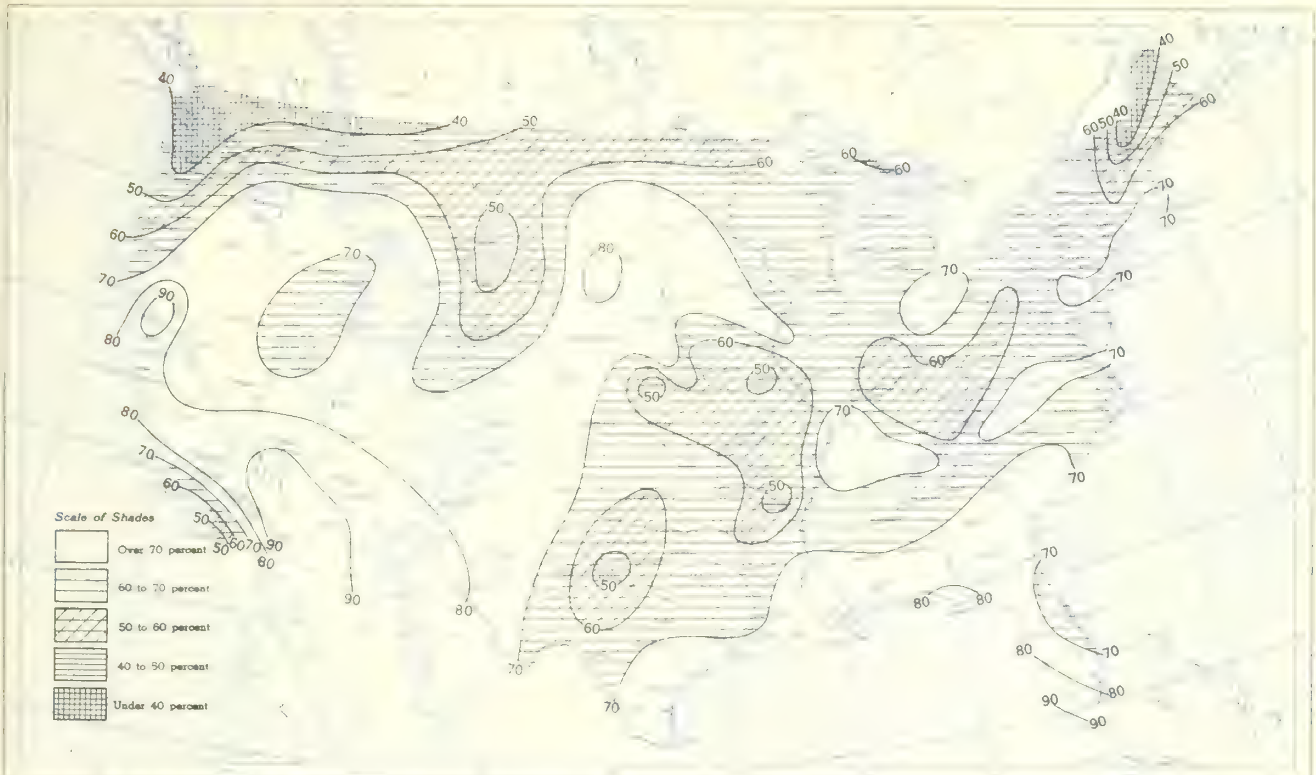


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, May 1955.

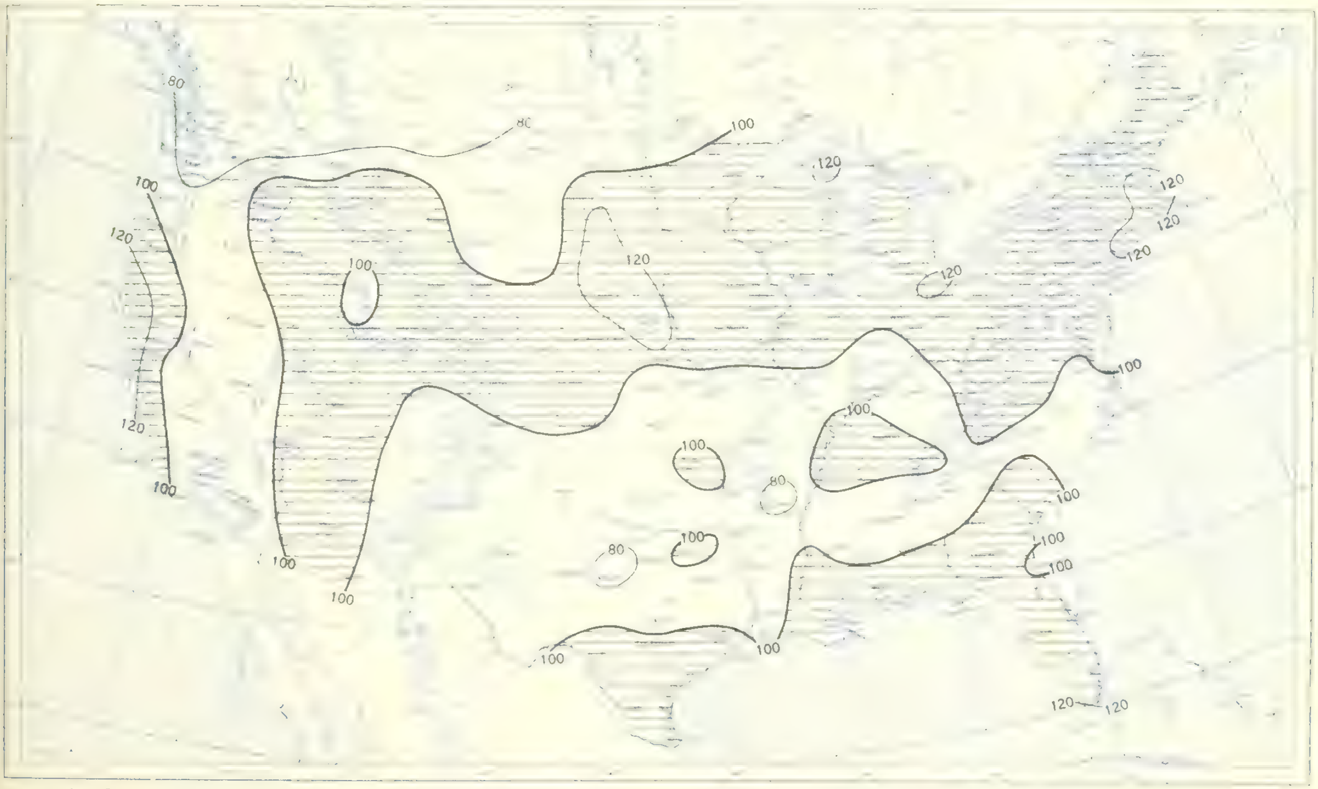


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, May 1955.

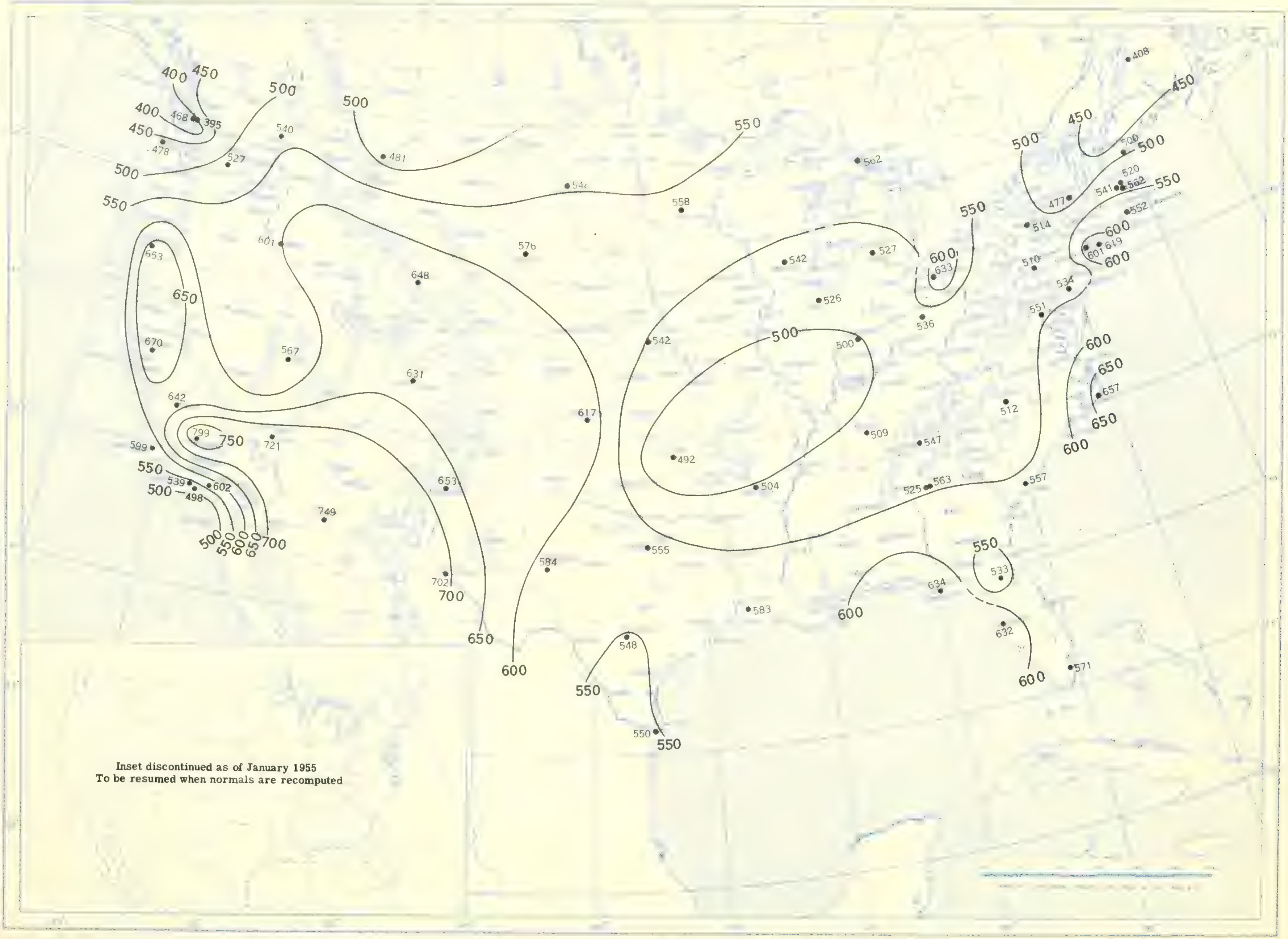


B. Percentage of Normal Sunshine, May 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

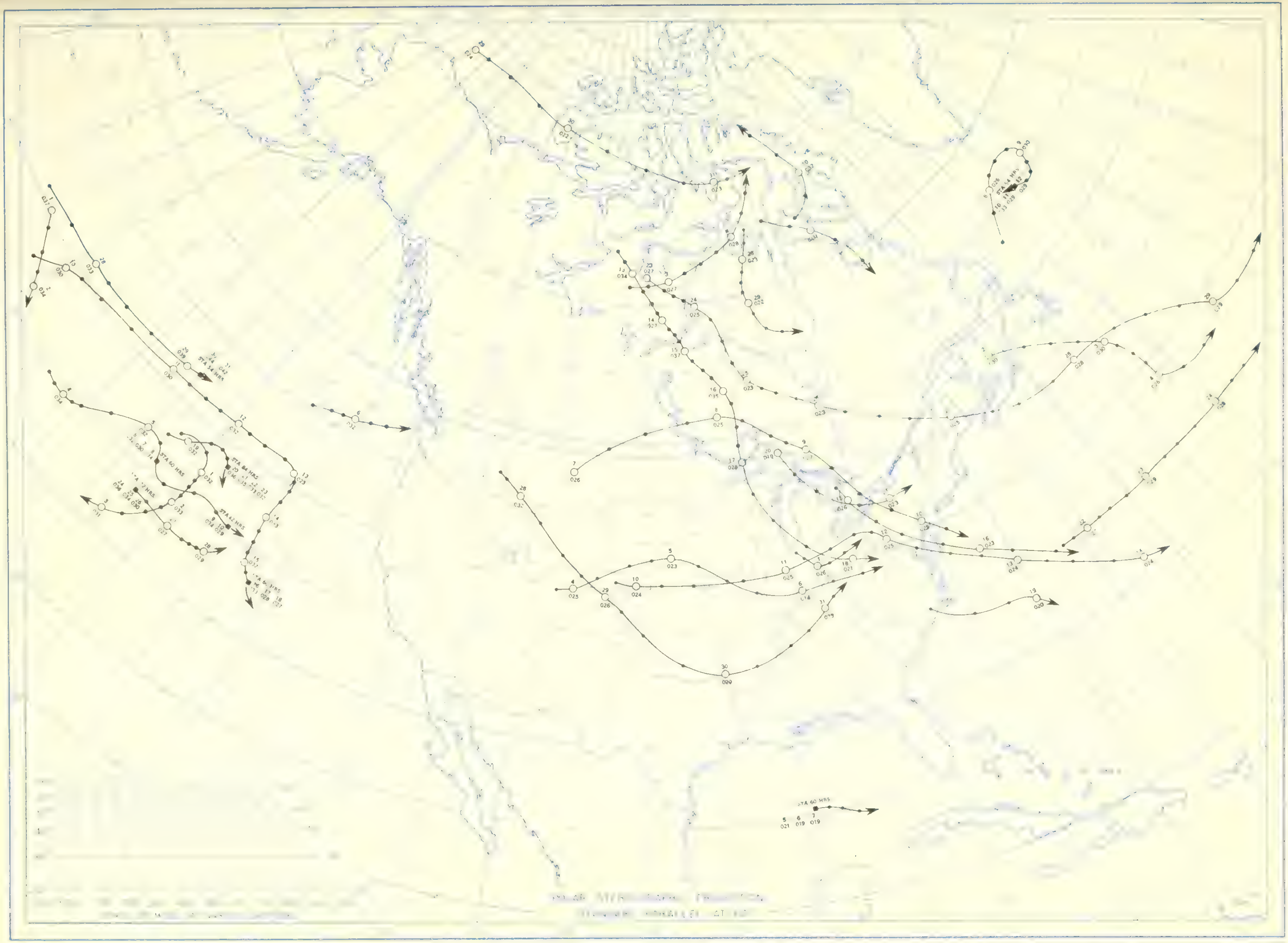
Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, May 1955. Inset: Percentage of Normal Average Daily Solar Radiation.



Inset discontinued as of January 1955
To be resumed when normals are recomputed

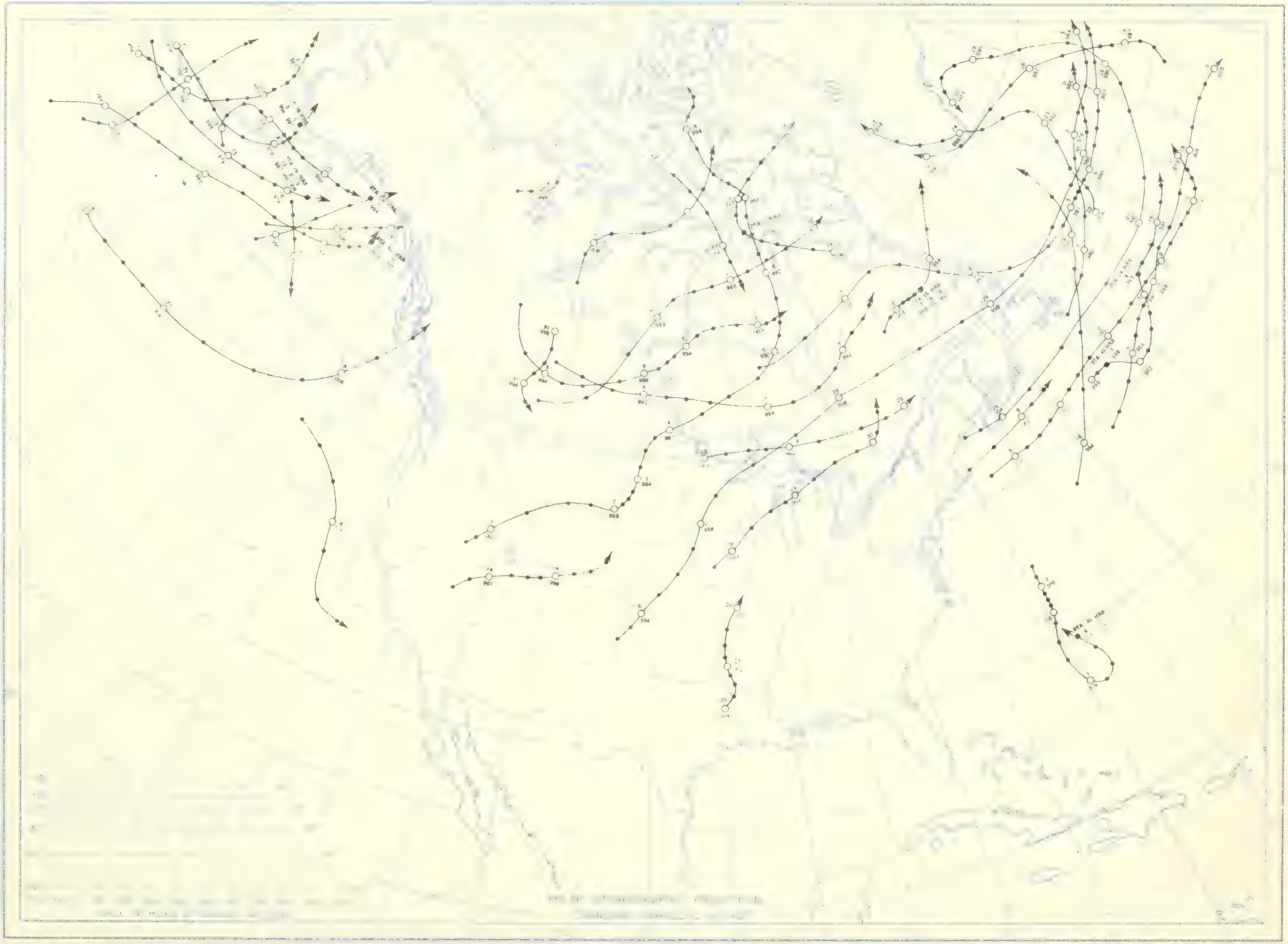
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley — 1 gm. cal. cm.$^{-2}$). Basic data for isolines

Chart IX. Tracks of Centers of Anticyclones at Sea Level, May 1955.



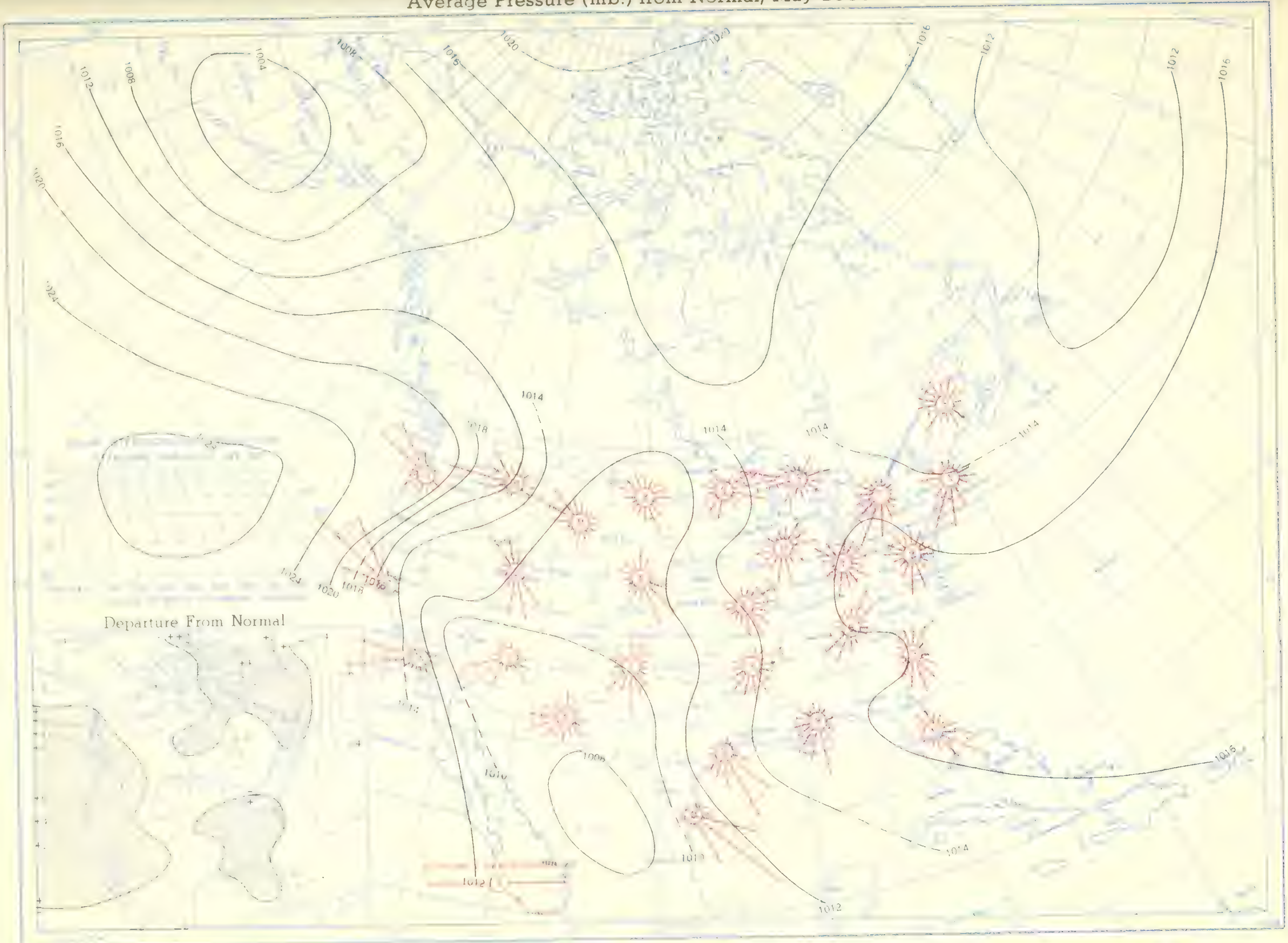
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, May 1955.



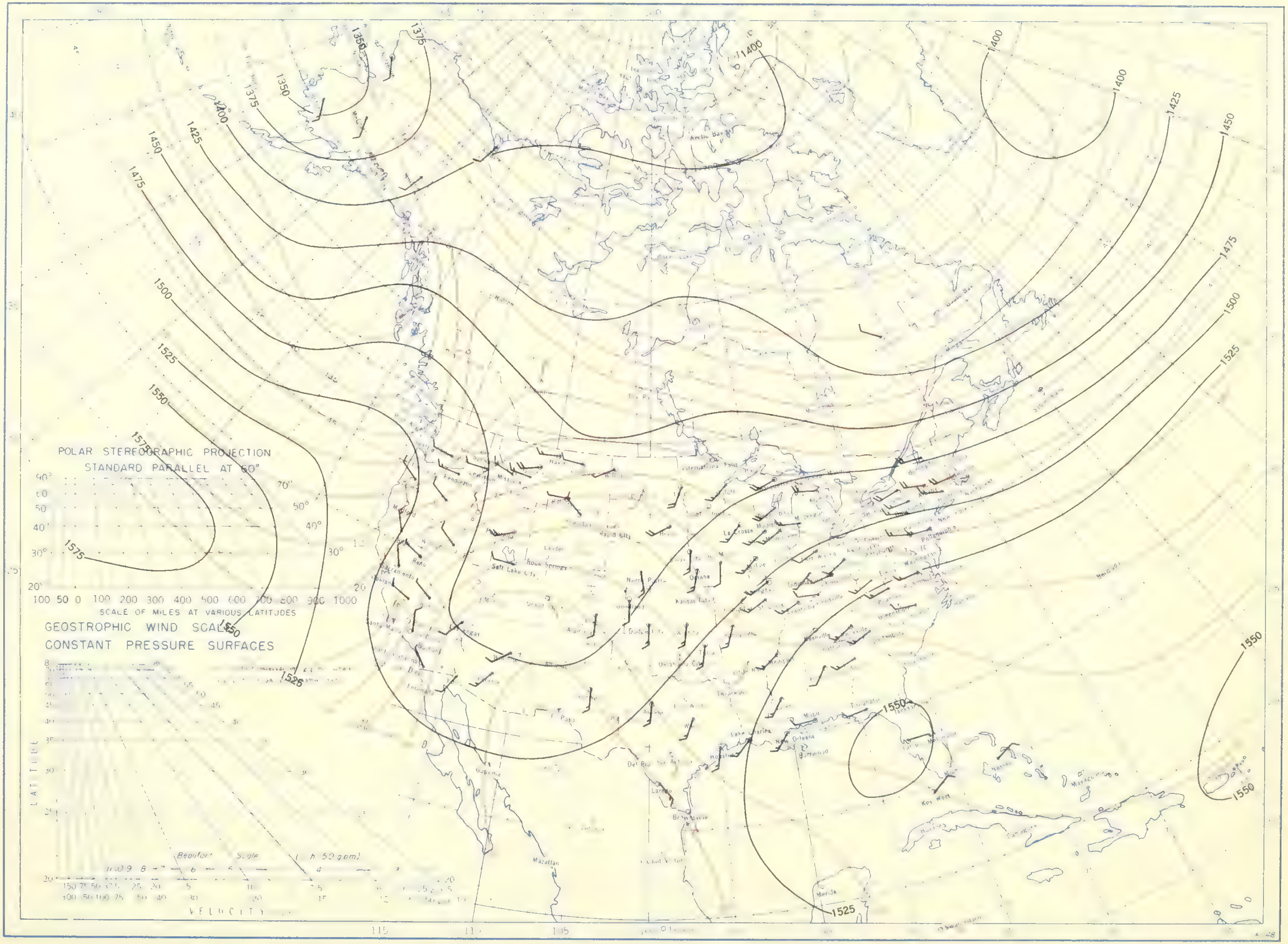
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Chart XI. Average Sea Level Pressure (mb.) and Surface Windroses,
Average Pressure (mb.) from Normal, May 1955.



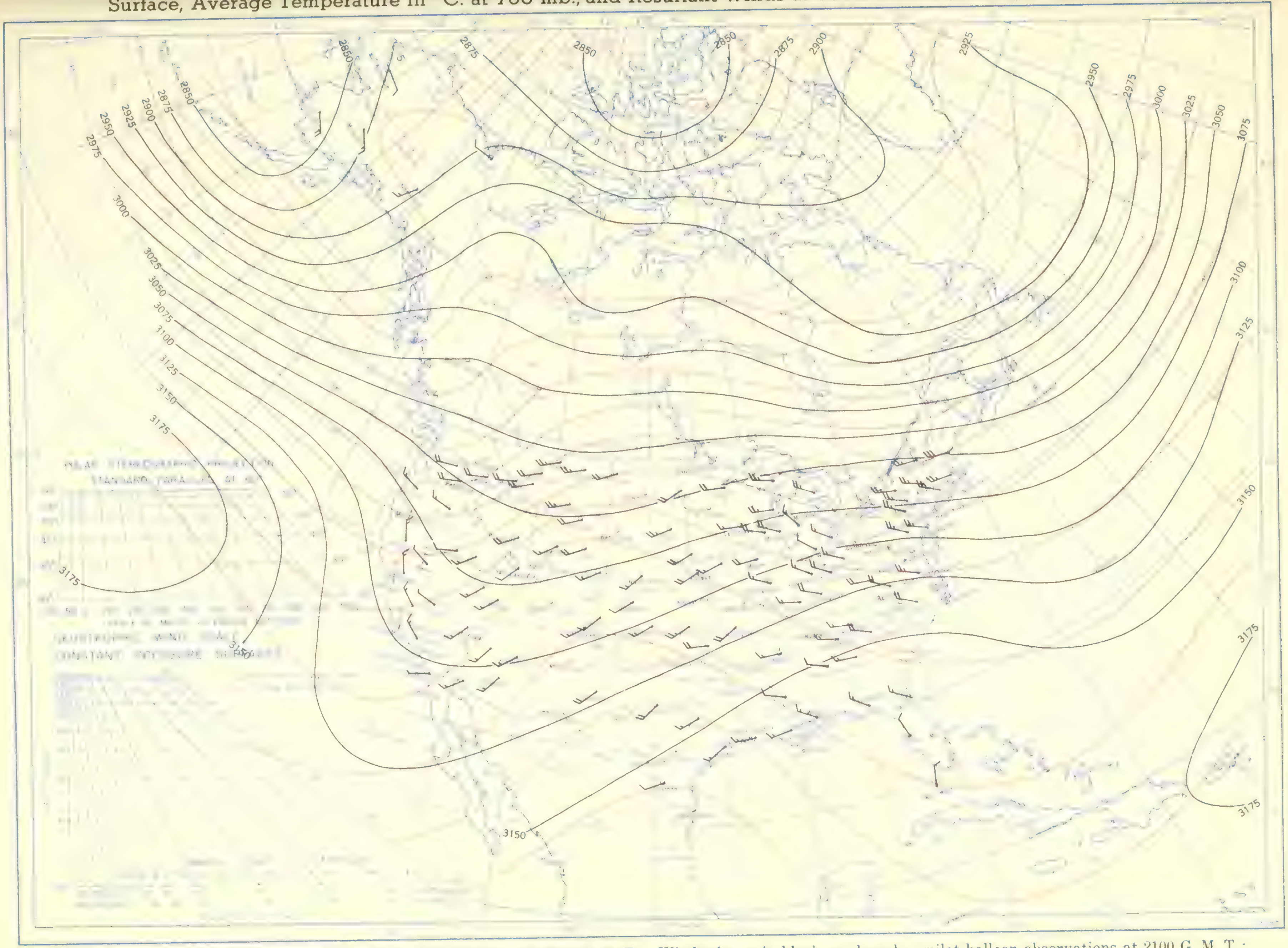
Average sea level pressures are obtained from the averages of the 7:30 a.m. and 7:30 p.m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), May 1955.



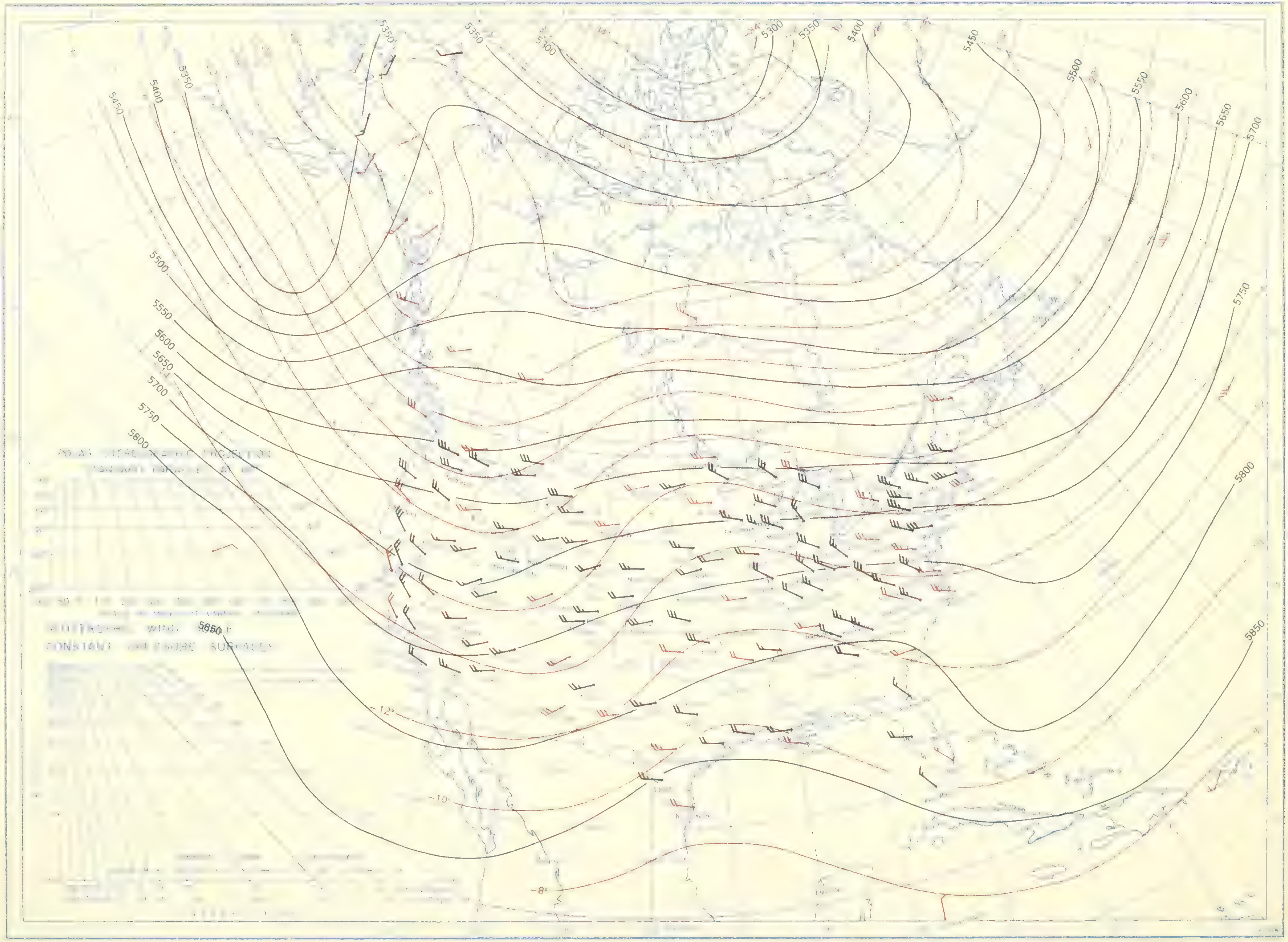
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T.

Chart XIII. Average Dynamic Height in Geopotential Meters
Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), May 1955.



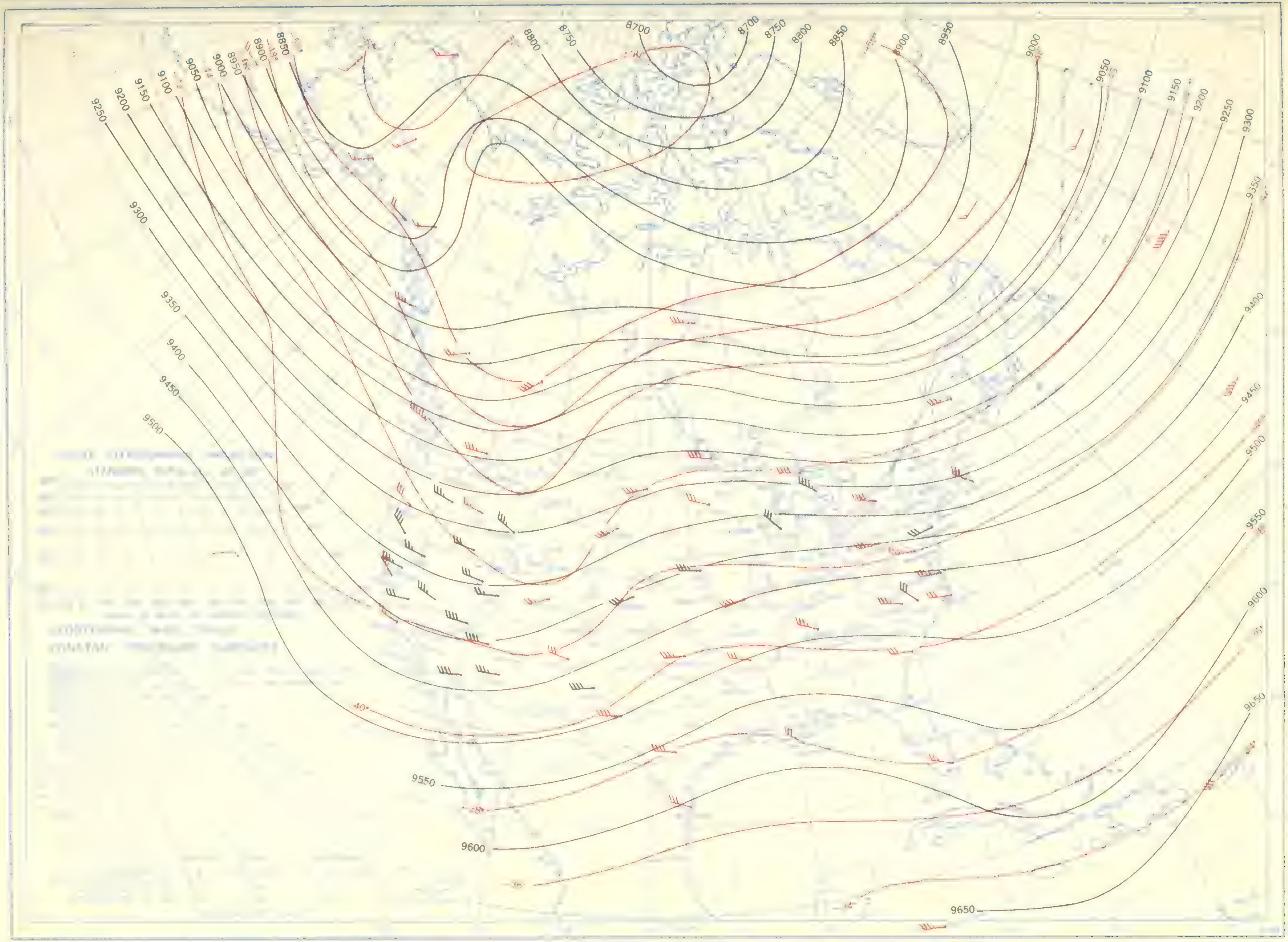
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), May 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;

Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), May 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JUNE 1955
Volume 6 No. 6

ASHEVILLE: 1955

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CHARTS I-XV

NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 6 No. 6

JUNE 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

Unseasonably cool weather over virtually the ntire Country was the main weather feature of une 1955. The cool weather in the far West was continuation of a subnormal trend beginning late n 1954, while east of the Rocky Mountains it marked a reversal of the unusual warmth of April and May. Rainfall east of the Rockies was extremely variable in short distances but occurred at timely intervals and thus was mostly sufficient to maintain adequate soil moisture for crops which generally were in good condition at the end of the month. In the far West precipitation was too ight to furnish any relief to the droughty areas n Utah and Nevada, but thunderstorm activity brought the heaviest June rainfall to Arizona in many years. The month's sunshine, well below normal in western Washington and in Nebraska and some adjacent areas, ranged from slightly below to much above normal elsewhere.

TEMPERATURE.--Temperatures for June averaged below normal everywhere except in northern portions of the Intermountain Region, the Rio Grande Valley below Del Rio, Texas, and along the Canadian Border from eastern North Dakota to New England where they were slightly above normal.

Below-normal temperature departures for the month were lowest (4° or more) in a large area extending from the central Great Plains to the Atlantic Coast. Statewide averages were the lowest on record for West Virginia, Kentucky, Alabama, Georgia, and the Carolinas and the lowest since 1903 in several other southern and eastern states. These low average temperatures resulted not from any record-breaking cold spells but from well below-normal temperatures which persisted virtually throughout the month. At Birmingham, Ala., for instance, the temperature failed to rise to normal levels during the entire month. The relatively coldest weather in this area occurred during the second week when weekly averages were as much as 12° below normal in the Midwest and minima ranged in the 60's along the Gulf Coast to the 40's near the Canadian Border where a few stations reported 32° or below.

In the far West lowest temperatures occurred either during the opening or closing days of the month, with frost and freezing being reported in scattered sections of the northern rockies during both periods. Highest temperatures occurred in most of this region during the second week when weekly averages ranged up to 12° above normal and maxima of 100° extended northward to Seattle, Wash. This was the first extended warm spell in the far West in several months.

Extremes for the month occurred in California, ranging from 123° at Greenland Ranch on the 7th to 10° at Twin Lakes on the 1st.

PRECIPITATION.--June precipitation totaled over an inch from the Great Plains and northern Rockies eastward and also in western Washington and central Arizona. Areas with above-normal amounts were most extensive along the western slopes of the Rockies, in the Great Plains, and the central Mississippi Valley.

Total rainfall for Arizona was the greatest since 1927 and the third heaviest of record. Monthly totals ranged up to 4.60 inches and several stations reported new June records.

In another area of heavy rainfall including western Oklahoma and the eastern portion of the Texas Panhandle, Memphis, Tex., had a monthly total of 11.89 inches and Miami, Okla., 7.95 inches.

Rains were also exceptionally heavy in extreme western Nebraska and southeastern Wyoming where heaviest amounts fell on the 26th and 27th. Monthly totals reported by the Official Weather Bureau network of stations ranged up to 8.11 inches at Tarrington Experiment Farm in Wyoming and 9.40 inches at Bloomington, Nebr. Of the 8.11 inches at Tarrington, 5.53 inches fell during the storm of the 26th and 27th. Greater unofficial storm totals were reported.

Scattered localities of the Northeast reported the driest June in many years, but most of these spots had good soil moisture reserves owing to good rains in May and suffered little or no adverse effects.

DESTRUCTIVE STORMS.--Numerous wind- and hailstorms during the month caused many millions of dollars damage. Damage in the Carolinas totaled nearly $10,000,000 and in Texas over $8,000,000. One of the worst hailstorms occurred in Amarillo, Tex., on the 19th, damaging 6,000 houses and 1,500 automobiles for a total loss of $2,000,000. One of the month's worst tornadoes struck Scottsbluff, Nebr., on the 27th, killing 2 persons, injuring 20, and causing property losses estimated at $450,000. Heavy rains associated with the Scottsbluff tornado resulted in heavy flood losses in southeastern Wyoming. A flash flood in Las Vegas, Nev., on the 13th caused losses of $1,500,000.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

JUNE 19

Section	Temperature								Precipitation					
	Average °F	Departure from normal °F	Monthly extremes Station	Highest °F	Date	Station	Lowest °F	Date	Average In	Departure from normal In	Monthly extremes Station	Greatest In	Station	Leas In.
Alabama	[illegible]	-5.1	2 Stations	100	23	Sylacauga 4NE	42	[illegible]	2.99	-1.25	Atmore State Farm	7.53	Wilson Dam	0.8
Arizona	[illegible]	-1.5	Davis Dam	119	8	Maverick	19	3	1.07	.72	Bar T Bar Ranch	4.60	31 Stations	.0
Arkansas	73.1	[illegible]	Camden 1	99	23+	Gilbert	44	8	3.65	.35	Gilbert	10.50	2 Stations	.2
California	68.7	[illegible]	Greenland Ranch	123	7	Twin Lakes	10	1	.08	-.22	Lake City	2.66	277 Stations	.0
Colorado	[illegible]	1.5	Eversoll Ranch	101	24	Fraser	16	2+	1.04	-.41	Holyoke	5.62	Conejos 3NNW	.0
Connecticut	[illegible]	[illegible]	Waterbury City Hall	90	22	Mansfield Hollow Dam	36	4	2.89	-.62	2 Stations	4.51	Middletown 4W	1.6
Delaware	[illegible]	.9	[illegible] Stations	93	22	6 Stations	48	4+	6.33	2.56	Selbyville	8.23	Georgetown 5SW	4.7
Florida	[illegible]	-1.5	Lake City 2E	102	22	Jasper 9ESE	49	3	6.29	-.35	South Miami 3W	14.48	2 Stations	1.0
Georgia	[illegible]	-4.3	Bainbridge	100	21+	Blairsville Exp. Sta	39	1	2.98	1.41	Savannah WB AP	6.57	Quitman	.6
Idaho	[illegible]	-.1	Grand View	107	21	Big Creek 1S	19	1	1.49	.17	Elk City	3.37	Shoshone	.1
Illinois	68.6	-3.5	E.St.Louis Parks Col.	99	21	Stockton	39	10	3.86	-.16	Bradford CAA AP	7.82	Roberts 3N	2.0
Indiana	[illegible]	-4.0	7 Stations	95	[illegible]	4 Stations	40	1	3.28	-.60	Huntingburg	5.65	Monroeville	1.2
Iowa	[illegible]	-2.4	[illegible] Stations	95	20+	Sibley	37	13	3.07	-1.47	Lake Mills	7.14	2 Stations	.7
Kansas	[illegible]	-3.2	Liberal	103	24	Goodland WB AP	39	9+	3.70	-.27	LaCygne	10.09	Syracuse	.0
Kentucky	[illegible]	-5.7	2 Stations	[illegible]	21	Benham	40	1	4.29	.12	Munfordville	7.99	Louisa 2	2.0
Louisiana	[illegible]	[illegible]	Natchitoches	99	26+	4 Stations	48	11+	3.75	-.72	Winnsboro	9.81	Logansport	.4
Maine	62.5	[illegible]	Augusta CAA AP	95	19	East Sangerville 5SE	32	9+	2.73	-.74	Farmington	5.96	Fort Kent	.4
Maryland	67.9	3.0	Ocean City	96	29	Oakland 1SE	33	2+	5.45	1.48	Picardy	8.28	Ocean City	.76
Massachusetts	[illegible]	.9	Shelburne Falls	96	19	3 Stations	38	8+	3.17	-.32	Ware 2	5.98	Chatham	1.4
Michigan	[illegible]	.5	2 Stations	93	16	2 Stations	30	[illegible]	2.43	-.98	Paw Paw	5.63	Hale Five Channels D	.64
Minnesota	[illegible]	.6	3 Stations	97	[illegible]	3 Stations	36	12+	3.44	-.65	Madison	9.33	Minneapolis WB AP	1.5
Mississippi	[illegible]	-4.1	4 Stations	98	22+	do	49	1+	3.07	-1.02	Rolling Fork	7.62	Crystal Springs 4NNE	.5
Missouri	[illegible]	-3.7	3 Stations	97	20+	2 Stations	40	15	4.62	-.18	Granby	9.67	Clearwater Dam	1.70
Montana	58.9	-1.6	2 Stations	102	22+	Wisdom	19	1	2.06	-.74	Baker	6.77	Hinsdale	.2
Nebraska	66.0	-3.4	Benkelman	101	29	3 Stations	36	5+	4.19	.42	Bloomington 2S	9.40	Wauneta	1.50
Nevada	65.2	.0	2 Stations	117	8+	Kimberly	15	1	.38	-.14	Las Vegas	1.87	11 Stations	.0
New Hampshire	63.5	.4	Lebanon CAA AP	94	18	3 Stations	34	3+	4.36	.71	Mount Washington	8.53	Concord WB AP	2.16
New Jersey	67.5	1.7	Sussex 3N	95	16	Tuckerton 2SW	40	4	4.05	.29	Berlin 1W	6.69	Sandy Hook	.5
New Mexico	68.2	1.5	Carlsbad CAA AP	108	8	2 Stations	17	2	.41	-.78	Clovis	2.66	16 Stations	.0
New York	64.9	.2	Little Falls Mill St	96	18	Old Forge 2SW	32	3	2.22	-1.34	Glens Falls Feeder Dam	7.32	Buffalo WB AP	.11
North Carolina	70.2	-4.5	Whiteville	99	6	Celo 2S	30	1	3.76	-.85	Gloucester Gap	8.40	Daybook	.76
North Dakota	62.1	-1.0	Watford City	93	29	Dunn Center	33	8	3.27	-.24	Amidon	6.34	Ambrose	1.15
Ohio	[illegible]	-3.4	5 Stations	94	5+	Mansfield 6W	35	1	2.66	-1.27	Apco Ravenna Arsenal	5.02	Bowling Green Sewage Pl.	.55
Oklahoma	71.1	[illegible]	2 Stations	105	[illegible]	5 Stations	44	4+	3.06	-.95	Miami	7.95	Cloudy Tower	.20
Oregon	60.2	.4	Illahe 1N	111	8	Fremont	13	16	.82	-.61	Sundown Ranch	3.48	Ashland	.00
Pennsylvania	65.1	-3.0	West Chester	94	22	2 Stations	33	2+	3.69	.40	Coatesville 1SW	7.46	Hop Bottom 2SE	.78
Rhode Island	63.9	-.8	2 Stations	88	29+	Kingston	38	10	3.40	.47	Greenville	5.91	Block Island WB AP	.81
South Carolina	73.5	-4.3	Kershaw	98	22	Long Creek 1N	43	1+	3.62	-.98	Summerville 2WNW	8.61	Anderson CAA AP	1.01
South Dakota	63.8	-2.3	2 Stations	101	29+	Deerfield Dam	26	5	3.26	-.34	2 Stations	6.23	Vale	.52
Tennessee	69.6	5.3	Samburg Wildlife Refuge	95	22	2 Stations	40	1	3.44	-.75	Monterey	7.73	Iron City	.88
Texas	78.5	-1.1	Presidio	113	8+	Mount Locke	36	10	2.40	-.39	Memphis	11.89	6 Stations	.00
Utah	62.9	-1.6	2 Stations	107	8	Moon Lake	19	2	.77	.07	Lower American Fork	3.62	3 Stations	.00
Vermont	63.5	.3	3 Stations	92	18+	4 Stations	35	3+	3.49	-.23	Mount Mansfield	7.36	West Topsham	1.58
Virginia	67.7	-4.1	do	95	6+	Burkes Garden	34	1+	3.94	-.16	Mathews 1SSW	9.52	Haysi	1.33
Washington	60.6	.2	2 Stations	104	11+	Rainier Paradise RS	27	1+	1.27	-.34	2 Stations	4.92	White Swan	T
West Virginia	64.3	-5.5	Clarksburg 1	95	7	Canaan Valley	28	2	3.79	-.71	Romney 3NNE	9.35	Matoaka	1.45
Wisconsin	64.5	-.3	3 Stations	96	30	Long Lake Dam	32	25+	3.55	-.64	Mount Horeb 1WSW	7.12	Trempealeau Dam 6	1.64
Wyoming	57.3	1.4	5 Stations	95	23+	Elk Mountain	18	4	2.17	.35	Torrington Exp Farm	8.11	Saratoga	.25

+ And also on a later date or dates

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ble 2

JUNE 1955

State and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 90° F or above	No. of days: Min 32° F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .01 inch or more	No of days: With thunderstorms	Snow, Sleet, Hail: Total	Snow, Sleet, Hail: Max depth on ground	Wind: Average hourly speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear	Partly cloudy	Cloudy	Sky cover: tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb.	°F	°F	°F	°F.	°F		°F				°F	%	In.	In.	In			In	In	M p. h.		M p h			0–3	4–7	8–10	0–10	%
ALABAMA																																
rmingham	610	990.4	1015.5	84	61	72.4	-5.0	91	23	[illegible]	[illegible]	1	0	60	67	2.06	-2.15	0.75	8	1	.0	0	6.2	NE	36	[illegible]	23	1	9	20	5.2	65
obile	211	1007.2	1015.2	89	66	77.6	-2.0	96	[illegible]	58	[illegible]	15	0	65	70	2.22	-3.07	1.09	8	10	.0	0	8.0	S	-	-		11	13	6	4.8	
ntgomery	198	1007.6	1015.2	86	65	75.6	4.0	94	26	56	[illegible]	8	0	63	69	4.82	13	1.55	7	7	.0	0	6.6	W	37	W	26	12	13	5	4.5	81
ARIZONA																																
agstaff	6993	-	-	74	38	55.9	-2.4	[illegible]	[illegible]	22	[illegible]	[illegible]	1			2.92	2.39	2.63	3	2	T	[illegible]						21	8	1	2.4	
oenix	1114	969.9	1008.1	99	68	83.7	-.2	112	8+	5[illegible]	2	28	0	41	18	.95	.89	.94	2	2	T	0	5.9	E	*23	WSW	13	25	4	1	1.5	99
escott	5014	846.3	1011.1	85	52	68.4	-1.7	101	8	35	2	1	0	-	-	1.87	1.64	1.73	2	3	T	T	10.6	SSW	38	NE	8	22	6	2	2.2	94
icson	2558	922.5	1008.4	99	66	82.3	.2	110	22	47	2	26	0	29	17	.03	-.27	.03	1	2	.0	0	8.0	WSW	29	SW	13	24	6	0	1.4	97
nslow	4880	850.3	1008.7	87	54	70.3	-1.1	99	22	41	2	14	0	26	24	2.12	1.83	2.12	2	2	.0	0	8.9	WSW	*36	WSW	1	23	3	4	2.3	
ıma	199	1003.1	1008.0	103	68	85.5	-2.3	116	9	54	1	28	0	38	22	.00	-.01	.00	0	0	.0	0	8.1	S	27	S	10	29	1	0	.5	100
ARKANSAS																																
rt Smith	458	997.3	1014.0	86	64	74.7	-3.6	95	25	52	10+	10	0	65	75	2.15	2.16	1.15	10	7	.0	0	8.1	E	26	SW	27	8	12	10	5.9	61
ttle Rock	257	1001.7	1014.4	85	65	74.7	3.8	92	[illegible]+	53	11	7	0	62	68	3.84	.41	1.62	10	8	T	0	8.4	ENE	30	W	10+	6	17	7	5.9	60
exarkana	361	--	- - -	87	65	76.0	3.[illegible]	93	[illegible]+	52	11	12	0			1.49	-2.36	.90	5	5	.0	0		-								-
CALIFORNIA																																
akersfield	489	994.6	1012.7	91	61	75.6	-1.3	103	6+	60		15	0	45	36	.00	-.09	.00	0	0	.0	0	7.8	NW	*23	WNW	7+	25	3	2	1.6	
ishop	4108	871.0	1009.5	91	47	69.2	2	104	8	32	2	19	1	-		.00	-.10	.00	0	0	.0	0						22	7	1	2.2	
lue Canyon	5280	839.8	1013.5	68	50	59.0	0	87	8	36	1	0	0	-	-	.30	-.74	.30	2	4	.0	0				-	-	20	6	4	2.9	
urbank	699	987.5	1013.8	78	56	66.6	.9	91	3	44	1	1	0	53	68	T	-.07	T	0	0	.0	0	4.8	S	*17	NW	3	10	13	7	4.9	--
ureka CO	43	1015.9	1018.3	57	48	52.9	-2.7	64	5	43	1+	0	0		-	.11	-.55	.03	6	0	.0	0	7.3		26	NW	1	5	5	20	7.2	59
resno	331	1000.7	1012.3	88	57	72.3	-3.4	101	8	44	1	12	0	47	44	.00	-.11	.00	0	0	.0	0	7.6	NW	25	NW	9	25	4	1	1.5	98
os Angeles CO	312	-----	-	75	58	66.7	-1.1	85	22	51	1	0	0	55	71	.01	-.06	.01	1	0	.0	0	5.5		19	W	3	8	18	4	4.9	62
os Angeles	99	1010.2	1013.9	70	58	63.9	.8	76	22+	50	1	0	0	55	76	.07	.00	.07	1	0	.0	0	7.3	W	%23	W	1+	4	17	9	5.7	-
t. Shasta CO	3544	892.0	1014.7	76	45	60.6	.8	94	4	35	2	4	0		-	.27	1.96	.11	2	3	.0	0				--		20	4	6	3.4	-
akland	3	1015.9	1016.2	67	51	59.1	-2.5	89	4	46	2	0	0	50	75	T	-.15	T	0	0	.0	0	9.4	W	*27	WSW	22+	15	9	6	4.3	--
ed Bluff	341	1000.3	1012.8	89	61	74.9	-1.1	108	8	53	14+	11	0	44	37	.26	-.20	.21	2	3	.0	0	10.6	SSE	35	SE	22	21	2	7	2.8	89
acramento	17	1012.2	1013.0	85	53	69.2	-1.1	102	8	45	1	9	0	49	54	T	-.11	T	0	0	.0	0	11.0	SSW	[illegible]	SW	25	23	6	1	1.7	92
andbery CO	4517	862.2	1011.9	74	53	63.4	-1.4	92	8	39	1	1	0	--	-	.00	-.04	.00	0	0	.0	0			-	-	-	21	8	1	2.0	-
an Diego	19	1010.8	1014.2	70	59	64.7	-.9	78	2[illegible]	55	1+	0	0	55	72	T	-.04	T	0	0	.0	0	7.4	WSW	20	S	24	9	16	5	5.2	54
an Francisco CO	52	----	----	63	51	57.0	-2.1	85	4	47	1	0	0			T	-.15	T	0	0	.0	0	11.6		32	W	26	13	11	6	4.4	65
an Francisco	1	1015.2	1015.8	68	50	59.3	.4	92	4	44	1	1	0	49	76	T	13	T	0	0	.0	0	15.2	WNW	36	WNW	22	14	8	8	4.7	--
anta Maria	238	1006.8	1015.6	66	48	57.3	-2.8	77	3	36	2	0	0	49	79	T	-.14	T	0	0	.0	0	8.0	WNW	*27	WNW	23	11	14	5	4.8	--
COLORADO																																
lamosa	7538	773.1	1014.9	76	41	58.1	.5	85	8	30	5	0	3	-		.11	-.38	.11	1	4	T	T	-	-		--		14	12	4	4.2	-
olorado Springs	6173	811.4	1012.7	76	48	62.3	-3.2	89	23+	38	4+	0	0	39	51	.43	1.36	.13	7	9	T	0	11.8	SSE	*35	SSW	2+	10	16	4	4.7	-
enver	5292	837.5	1012.0	77	51	64.0	-2.4	94	23	39	4	2	0	40	49	1.39	-.25	.43	11	11	T	T	10.0	S	37	N	9	4	15	11	6.0	63
rand Junction	4849	858.1	1010.8	83	56	69.6	-1.6	96	22	41	2	7	0	31	29	.24	-.21	.15	5	3	T	0	10.3	ESE	50	SW	1	14	11	5	4.0	83
ueblo	4639	855.7	1011.5	82	54	68.2	-.9	98	28	43	5	6	0	42	47	1.64	.24	.91	8	10	T	T	9.9	SE	57	N	4	11	14	5	4.9	71
CONNECTICUT																																
ridgeport	7	1012.5	--	76	58	67.0	1	88	30+	51	10+	0	0	-	-	2.18	-1.29	.64	13	6	T	T	---	-	-	-	--	7	10	13	6.3	-
artford	169	1006.8	1012.7	77	55	66.1	-2.8	89	29	45	4	0	0	55	71	3.46	-.16	1.30	12	5	T	0	9.6	S	31	NE	3	5	8	17	6.7	49
ew Haven	6	1011.9	1012.5	74	57	65.3	-.5	85	23	48	8	0	0		-	2.54	-1.27	.89	15	9	.0	0	5.9	- -	23	NE	3	6	10	14	6.5	60
DELAWARE																																
ılmington	73	1010.1	1013.4	79	59	68.7	-3.1	91	22	49	10	1	0	58	71	6.34	2.32	2.67	10	6	.0	0	7.9	NW				8	12	10	6.0	--
DIST. OF COLUMBIA																																
ashington CO	72	----	-----	80	61	70.7	-3.2	92	17	53	10+	1	0		--	3.92	.50	1.79	10	6	.0	0	7.2		26	SE	8					--
ash. Nat'l. AP	14	1010.0	1014.3	79	61	70.2	-3.2	91	30	52	10+	2	0	57	66	2.76	.65	1.36	9	5	.0	0	10.2	WNW	37	E	8	12	10	8	5.2	59
FLORIDA																																
palachicola	13	1013.7	1014.9	84	71	77.5	-2.4	90	9	64	1	1	0		--	3.27	-2.20	1.14	8	11	.0	0	7.6		33	SE	17	14	9	7	4.2	62
aytona Beach	31	1013.7	1015.2	87	67	77.2	-1.9	93	22+	58	3	11	0	67	75	7.76	1.07	1.59	14	13	.0	0	9.1	SSW	*28	SE	25	7	12	11	6.0	--
ort Myers	15	1014.6	------	89	69	78.9	-1.7	93	24+	61	4	16	0	-		8.53	-.67	2.63	15	11	.0	0	6.9	---	*37	NW	11	5	13	12	6.1	--
acksonville CO	18	------	----	88	70	79.1	-1.1	96	22	64	2+	11	0			4.41	-2.26	1.40	13	--	.0	0				-	-		-		-	--
acksonville	24	1013.9	1015.1	91	69	80.1	-.2	100	22	59	3	20	0	65	65	2.70	-4.12	.90	12	6	.0	0	9.7	WSW	37	NE	17	8	11	11	5.9	56
ey West CO	9	1013.6	1014.5	89	76	82.7	.1	92	29+	69	16	18	0	--	-	6.13	2.12	3.18	9	8	.0	0	6.5		21	W	18	7	15	8	5.6	79
akeland CO	214	----	- -	89	70	79.4	-.7	94	24+	6[illegible]	[illegible]	15			-	3.47	-4.64	.65	11	13	.0	0	6.5					9	12	9	5.3	70
iami CO	8	---	------	84	74	79.1	1.2	90	9	69	18+	1	0	-	--	7.67	2.12	3.94	10	16	.0	0	10.5		32	NE	2	6	18	6	5.6	62
iami	8	1013.8	1014.8	88	73	80.3	1.0	93	9	68	3+	5	0	72	78	9.69	2.87	3.79	17	11	.0	0	9.2	SE	*29	SSW	18	3	18	9	6.7	--
iami Beach	9	----	------	86	76	80.7	.8	94	9	71	19	2	0	-	-	6.94	1.91	3.48	12	-	.0	0	-	-				10	10	10	---	--
rlando	106	1011.1	1015.3	90	69	79.3	-1.5	95	10	61	3	17	0	67	73	4.73	-3.12	1.47	12	12	.0	0	8.4	SSW	*29	WNW	28	9	13	8	5.6	--
ensacola CO	13	1013.0	--	86	70	78.0	-1.6	91	26+	62	1	1	0	--	--	6.73	1.56	1.67	8	10	T	T	8.3		28	W	10					69
allahassee	64	1012.3	1014.8	89	65	77.4	-2.3	97	22	58	12+	13	0	63	68	5.99	-.73	2.42	11	8	T	0	6.1	NE			--	8	12	10	5.9	--
ampa	19	1014.0	1015.2	88	69	78.6	-1.8	92	22	63	3	11	0	67	71	2.55	-5.22	.75	9	13	.0	0	8.9	W	*23	WNW	18	6	8	16	5.5	74
est Palm Beach	15	1013.8	1014.7	88	71	79.5	1.1	93	9	66	10	12	0	71	79	6.93	-.96	2.44	13	11	.0	0	9.9	SE	*40	SSE	18	5	13	12	6.6	--
GEORGIA																																
tlanta	977	974.1	1014.9	84	62	72.9	-4.8	92	23+	54	8	3	0	59	66	3.53	49	1.02	9	5	T	0	8.3	NW	43	W	7	4	17	9	5.8	71
thens	798	986.3	---	85	61	72.8	-6.1	94	22	51	8	7	0	-		2.36	1.48	1.08	6	6	.0	0		---				13	13	4	4.5	--
ugusta	143	1007.8	1014.2	87	61	74.0	6.0	95	23	51	2	10	0	62	70	2.47	-1.27	1.86	5	5	.0	0	6.9	WSW	*29	W	7	9	11	10	5.5	-
olumbus	385	1001.2	1015.2	86	63	74.3	-4.7	93	26+	54	6+	7		-	-	1.29	2.66	.44	6	6	.0	0		--				11	12	7	5.2	
lacon	356	1001.2	1014.5	87	64	75.7	-5.2	95	22	54	2	12	0	60	62	3.07	-.68	1.50	8	4	.0	0	7.9	W	33	W	7	9	13	8	5.2	72
ome	637	992.3	----	84	59	71.4	-6.0	94	22	49	2	6	0		-	3.02	1.05	1.15	6	6	.0	0		--				8	14	8	5.3	
avannah	48	1012.0	1014.4	87	64	75.7	-4.0	94	4	53	16	10	0	66	74	6.57	1.40	2.72	12	11	T	T	9.7	NE	32	NW	11	10	11	9	5.6	70
IDAHO																																
oise	2842	917.4	1012.0	81	52	66.7	1.6	102	21	36	1	7	0	41	48	.63	.21	.17	6	2	.0	0	11.9	NW	45	NW	23	13	12	5	4.1	84
daho Falls 46W CO	4933	847.6	1012.9	76	42	59.0	-.6	95	22	29	30	3	3			1.03	.22	.45	8	3	.0	0	9.2		a28	SW	29				- -	--
daho Falls 43NW CO	4780	------	-----	75	42	58.8	.8	93	21	32	30	2	1			.91	-.17	.66	8	-	---		9.7		a34	S	29				---	-
ewiston	1413	962.4	1013.2	80	53	66.7	.4	99	21	42	2+	1	0			.52	1.23	.37	5	1	.0	0					-	10	8	12	5.7	--
ocatello	4444	861.5	1012.8	76	46	60.9	-2.1	95	22	36	1	2	0	39	50	1.30	.28	.49	7	6	T	T	11.8	SW	50	W	12	9	11	10	5.6	70
ILLINOIS																																
airo CO	314	1001.7	- - - -	82	63	72.7	-5.1	95	21	54	11+	5	0	-		4.72	.88	1.93	10	8	.0	0	6.6		33	N	23	11	10	9	5.2	79
hicago	610	991.2	1013.8	79	60	69.1	-.3	94	30	50	12+	3	0	54	60	3.04	1.11	1.11	12	4	T	T	9.0	S	32	W	5	9	11	10	5.8	66
oline	589	992.9	1014.8	78	58	67.8	-3.0	91	30	47	13	1	0	55	68	3.65	-.98	1.21	10	5	.0	0	9.6	S	32	N	1	10	4	16	6.2	53
eoria	654	992.2	1014.4	78	59	68.4	-2.5	92	30	47	14	1	0	56	64	3.20	-.68	1.36	10	8	.0	0	8.8		43	W	4	11	7	12	5.7	66
pringfield	587	991.2	1014.1	80	59	69.5	-2.4	93	30	45	14	1	0	57	69	2.50	-1.68	1.16	12	7	.0	0	10.8	S	31	NW	8	11	5	14	5.8	67
INDIANA																																
vansville	383	999.0	1014.6	80	58	69.3	-5.3	94	21	47	[illegible]	1	0	58	71	3.04	-.83	1.20	9	4	.0	0	6.8	SW	29	SW	11	11	7	12	5.8	62
Fort Wayne	801	983.4	1014.1	80	56	68.1	-.9	94	19	48	1+	3	0	53	63	2.80	-.76	.98	10	5	T	0	9.5	NW	39	W	5	9	9	12	5.8	66
Indianapolis	793	985.4	1014.9	78	57	67.1	-4.3	89	21	45	14	0	0	55	69	1.79	-2.42	.54	10	3	.0	0	8.6	SE	31	SW	11	9	8	13	6.0	58
South Bend	768	986.8	1014.5	77	56	66.3	-2.4	91	30	45	14	1	0	55	69	2.17	-1.66	.72	9	6	.0	0	8.8	S	*25	WNW	22	10	10	10	5.5	--

See footnotes at end of table.

Table 2–Continued

State and station	Elevation (ground)	Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet, Hail		Wind		Fastest mile			No. of days (sunrise to sunset)				
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
IOWA																																
Burlington	694	989.2	1014.8	79	58	68.2	-3.5	92	30	48	13+	2	0	56	68	3.12	-2.52	1.01	10	6	T	0	9.4	S	28	NW	8	8	11	11	6.0	75
Des Moines	948	983.1	1014.1	79	58	68.6	-2.0	94	20	45	13	2	0	53	63	1.71	-3.28	.76	11	6	.0	0	14.4	S	41	W	3	4	13	13	6.6	68
Dubuque	1065	975.6	1014.5	75	56	65.1	-2.7	88	30	41	10	0	0	55	68	3.41	-1.68	.97	11	7	T	0	----	---	--	---	--	7	8	15	6.8	--
Sioux City	1094	972.2	1013.0	79	58	68.6	-1.7	95	20	47	9	3	0	55	66	2.91	-1.50	.94	15	11	.0	0	13.2	SSE	43	S	27	6	10	14	6.3	58
KANSAS																																
Concordia CO	1375	963.4	------	80	61	70.4	-3.5	96	30	49	9+	5	0	--	66	3.42	-.81	.90	12	11	T	T	8.5	---	47	NW	4	4	14	12	6.6	41
Dodge City	2594	925.8	1012.0	81	59	69.9	-3.6	96	30	45	10	3	0	56	66	2.18	-.83	.80	9	13	T	T	15.4	S	49	S	27	8	11	11	5.6	68
Goodland	3645	887.9	1012.6	79	52	65.6	-2.9	95	29	39	9+	6	0	49	64	2.59	-.43	.90	14	14	T	T	13.4	SE	*46	NNW	9	10	10	10	5.8	--
Topeka	879	978.3	1013.7	82	60	70.9	-2.9	96	21	49	9	4	0	59	68	5.06	.52	1.52	13	11	.0	0	11.8	S	57	NW	4	3	10	17	7.2	60
Wichita	1321	964.8	1012.6	81	62	71.6	-3.7	93	30	49	10	6	0	60	71	3.98	-1.01	1.79	13	14	T	T	13.9	S	43	S	28	5	9	16	6.9	65
KENTUCKY																																
Lexington	978	980.0	1014.9	78	57	67.9	-4.3	89	21	49	1	0	0	57	71	4.06	-.15	1.16	10	8	.0	0	9.3	S	--	---	--	9	10	11	5.9	--
Louisville	485	995.4	1014.5	81	59	69.7	-4.5	91	21	50	1	4	0	58	71	3.38	-.68	.98	11	7	.0	0	7.4	SE	34	SE	6	10	6	14	5.8	54
LOUISIANA																																
Baton Rouge	64	1011.5	1014.6	89	66	77.8	-1.8	96	22	58	12	18	0	65	70	3.53	-1.49	1.12	10	7	.0	0	6.5	W	--	---	--	11	12	7	4.7	--
Lake Charles	12	1013.2	1014.5	88	69	78.7	-2.0	93	27	60	10+	10	0	68	73	4.85	-.20	2.25	8	10	.0	0	6.9	S	*23	S	5+	9	13	8	5.0	--
New Orleans CO	9	1012.9	------	89	72	80.4	-1.5	94	26	64	11	12	0	--	--	1.44	-4.13	.79	7	10	.0	0	5.8	---	20	NW	10	12	15	3	4.3	76
New Orleans	3	1012.9	1014.9	89	69	78.8	-1.7	95	26	60	11	14	0	68	74	4.42	-1.21	1.93	8	9	.0	0	8.0	SSW	*35	W	9	12	13	5	4.4	--
Shreveport	252	1005.1	1014.4	88	67	77.5	-3.6	95	26	55	11	15	0	65	71	2.67	.03	1.67	5	6	.0	0	8.5	S	--	---	--	11	14	5	4.6	79
MAINE																																
Caribou	624	988.1	1011.8	71	50	60.6	2.2	90	18	39	3	1	0	51	74	2.44	-1.51	.97	11	7	.0	0	8.6	WSW	*29	WSW	30	4	11	15	6.9	--
Portland	61	1008.1	1012.3	73	52	62.6	.8	90	29+	42	10	2	0	55	79	2.31	-1.01	1.16	11	8	.0	0	7.3	E	33	E	12+	5	10	15	6.9	56
MARYLAND																																
Baltimore CO	14	------	------	80	63	71.5	-2.8	91	30+	53	8	6	0	--	--	7.83	4.31	2.75	10	--	---	--	----	---	--	---	--	--	--	--	---	--
Baltimore	146	1009.4	1014.3	78	59	68.5	-3.7	90	30	50	1	1	0	59	74	6.73	3.21	2.38	9	6	T	0	10.2	WNW	42	NE	8	11	12	7	5.3	67
Frederick	294	------	------	78	56	67.1	-5.5	90	30+	48	4	2	0	--	--	3.94	-.02	1.32	9	2	.0	0	----	---	--	---	--	--	--	--	---	--
MASSACHUSETTS																																
Blue Hill Obs.	629	989.3	1012.4	73	55	62.9	-1.1	89	30	44	8	0	0	--	77	3.32	-.86	1.79	13	4	.0	0	11.8	SW	27	NE	8+	6	8	16	6.6	50
Boston	15	1007.3	1012.0	75	59	66.8	-.4	92	30	50	10+	4	0	56	71	3.52	.04	2.10	13	3	.0	0	11.0	SW	*33	WNW	16	5	11	14	6.5	63
Nantucket	43	1012.1	1012.8	65	54	59.7	-1.2	75	30+	46	10+	0	0	55	88	1.90	-1.34	.92	7	3	.0	0	13.3	SW	34	S	12	8	6	16	6.4	60
Pittsfield	1153	970.3	1011.9	73	52	62.4	-.6	86	18	41	10	0	0	--	--	3.91	-.68	2.48	9	6	T	T	----	---	--	---	--	--	--	--	---	--
MICHIGAN																																
Alpena CO	587	991.9	------	72	55	63.6	2.1	89	29	46	1	0	0	--	--	.76	-1.79	.24	7	1	.0	0	8.6	---	26	W	22	9	14	7	5.1	68
Detroit	619	988.2	1014.3	79	59	68.5	.4	89	19	48	15	0	0	54	61	1.87	-1.03	.57	10	5	.0	0	7.5	S	29	W	22	8	12	10	5.4	67
Detroit (Willow Run)	722	986.1	1014.0	79	57	68.4	-.2	91	19	49	13	4	0	53	63	1.97	-1.29	.68	9	3	.0	0	9.0	WNW	*28	WNW	22	8	12	10	5.3	--
East Lansing CO	856	------	------	79	56	67.7	.3	89	19	48	1+	0	0	--	--	3.81	.44	1.83	8	4	.0	0	4.1	---	22	SE	6	--	--	--	---	59
Escanaba CO	594	991.5	------	71	54	62.2	1.5	84	16	44	11	0	0	--	--	1.41	-1.39	.42	9	4	T	T	9.3	---	35	N	12	7	10	13	5.9	56
Grand Rapids	681	989.2	1014.1	78	55	66.4	-.3	87	4+	42	1	0	0	54	67	2.20	-1.15	.99	7	6	.0	0	5.2	W	25	S	6	12	9	9	5.3	67
Marquette	677	986.8	------	72	55	63.5	3.9	88	4	41	12	0	0	--	66	1.92	-1.54	1.58	9	5	T	T	7.5	---	30	W	4	7	7	16	6.5	58
Muskegon	627	991.2	1014.5	76	55	65.1	.7	85	18+	41	1	0	0	53	63	3.01	.14	1.55	8	5	.0	0	----	---	--	---	--	13	6	11	4.8	--
Sault Ste. Marie	721	991.9	1014.4	74	51	62.7	4.6	86	17+	41	1	0	0	53	74	1.26	-1.76	.34	9	3	.0	0	8.0	WNW	24	NW	14	9	10	11	5.5	58
MINNESOTA																																
Duluth	1409	972.6	1013.6	73	51	62.1	2.4	87	29	42	13	0	0	52	73	3.98	-.35	1.03	14	9	T	T	11.1	ESE	34	W	21	7	10	13	6.5	56
Intern'l Falls	1179	970.2	1012.9	74	51	62.5	2.4	88	29	37	12	0	0	53	72	6.72	2.99	2.42	14	10	T	0	8.4	---	--	---	--	9	6	15	6.5	--
Minneapolis	830	980.4	1013.6	78	58	68.2	.0	96	30	48	12	1	0	53	64	1.53	-2.73	.52	12	7	.0	0	12.2	S	43	S	28	10	8	12	5.5	55
Rochester	1017	977.0	1013.8	76	54	65.1	-1.7	93	30	44	26	1	0	54	70	2.78	-1.55	.95	11	10	.0	0	9.3	S	--	---	--	10	7	13	5.9	--
St. Cloud	1034	975.3	1013.0	76	54	65.1	.1	95	30	42	8+	1	0	54	70	2.90	-.95	1.12	14	7	.0	0	7.7	WNW	--	---	--	11	7	12	6.0	--
MISSISSIPPI																																
Jackson	315	1003.0	1014.8	88	63	75.5	-4.4	93	26	55	13	16	0	63	68	.92	-2.80	.27	8	8	.0	0	5.4	WNW	36	NW	26	15	11	4	3.9	71
Meridian	294	1001.5	------	88	62	74.6	-4.5	94	26+	52	1	13	0	--	--	2.22	-2.11	.70	6	6	.0	0	----	---	--	---	--	15	11	4	3.8	--
Vicksburg CO	234	1005.6	------	86	67	76.7	-2.8	92	24+	57	11	9	0	--	--	3.08	-.23	2.22	7	7	T	T	6.5	---	30	SE	29	14	8	8	4.5	83
MISSOURI																																
Columbia	778	986.1	1014.2	80	60	69.6	-3.3	90	21+	47	14	2	0	58	68	7.07	2.17	3.47	8	8	T	T	8.7	SSE	40	NW	24	8	9	13	6.0	62
Kansas City	741	979.7	1014.0	80	63	71.3	-4.1	94	20	52	14	4	0	58	66	4.71	-.31	1.51	12	9	T	T	10.9	S	37	W	5	3	9	18	7.1	63
St. Joseph	809	------	------	81	59	70.0	-4.4	95	20	47	14	4	0	--	--	7.40	.94	4.76	14	14	T	T	----	---	--	---	--	--	--	--	---	--
St. Louis CO	465	994.2	------	81	64	72.5	-3.3	93	21	53	14	2	0	--	--	2.70	-1.10	1.57	8	4	.0	0	9.1	---	36	SW	5	9	8	13	6.0	55
St. Louis	552	994.2	1014.4	82	61	71.5	-3.6	94	21	49	14	4	0	57	64	4.78	.41	1.98	11	4	T	0	8.4	WNW	--	---	--	6	10	14	6.4	--
Springfield	1265	967.5	1014.5	78	59	68.5	-4.4	91	21	50	10+	1	0	59	76	4.03	-1.53	.85	11	12	T	0	12.2	SSE	44	NW	11	4	12	14	7.1	49
MONTANA																																
Billings	3568	891.0	1013.4	74	51	62.6	-1.4	90	21	42	1+	1	0	48	63	1.72	-.89	.43	11	9	T	T	10.6	N	44	W	29	4	14	12	6.4	72
Glasgow CO	2090	939.0	1013.6	76	51	63.7	-.5	93	29	42	6	3	0	46	56	.69	-2.79	.36	9	4	T	0	8.9	ESE	--	---	--	5	12	13	6.4	--
Great Falls	3664	887.9	1013.5	71	49	60.4	-.3	87	22	38	1	0	0	41	54	1.23	-1.73	.38	8	5	.0	0	12.4	SW	54	W	14	7	16	7	5.4	70
Havre CO	2488	925.5	1013.8	75	49	62.0	-.9	88	22	39	9	0	0	44	56	1.29	-1.69	.54	12	5	.0	0	9.1	---	38	W	14	9	11	10	5.5	62
Helena	3893	873.4	1014.3	72	46	58.8	-.6	91	22	37	1+	1	0	44	61	2.19	.04	.64	14	11	T	T	8.6	W	40	S	28	6	13	11	5.9	67
Kalispell	2965	------	------	73	45	59.3	.9	96	22	34	2	2	0	--	--	3.06	.63	1.32	10	6	T	T	----	---	--	---	--	8	13	9	5.5	--
Miles City	2629	929.9	1013.4	76	52	64.0	-1.2	96	29	40	6	3	0	49	--	1.96	-.88	.67	11	6	.0	0	9.5	SE	*39	WNW	29	5	11	14	6.5	--
Missoula	3200	901.5	1015.1	74	45	59.4	-.8	98	22	34	2	3	0	42	56	1.85	-.02	.66	11	8	T	T	8.1	W	38	NE	22	8	8	14	6.4	64
NEBRASKA																																
Grand Island	1841	947.9	1012.9	77	57	67.0	-4.6	97	1	45	9	4	0	55	68	4.65	.99	1.72	12	9	.0	0	13.1	S	--	---	--	6	8	16	6.6	--
Lincoln CO	1184	------	------	79	59	68.7	-4.1	94	30	47	9+	4	0	--	--	4.97	.87	2.01	12	12	T	0	9.1	---	39	N	23+	6	12	12	6.1	57
Norfolk	1544	958.3	1013.2	77	56	66.8	-2.5	98	1	46	9	3	0	55	67	4.93	.15	1.54	17	12	T	T	----	---	--	---	--	7	9	14	6.4	--
North Omaha	1323	965.8	------	77	57	67.1	---	92	20	45	9+	3	0	--	--	4.86	----	1.40	14	14	T	0	----	---	--	---	--	--	--	--	---	--
North Platte	2779	915.0	1012.4	75	53	63.7	-5.1	92	29	38	7	1	0	53	71	5.02	2.10	3.61	11	10	T	0	12.6	ESE	43	NE	19	6	10	14	6.5	50
Omaha	978	973.9	1013.6	80	59	69.2	-3.4	96	20	46	10	3	0	57	68	4.31	-.20	1.56	14	12	T	0	10.7	SSE	34	SE	27	8	10	12	6.1	51
Scottsbluff	3950	878.4	1012.6	75	51	63.0	-3.5	94	29	40	5+	3	0	49	67	3.18	.40	.96	13	10	T	T	12.2	ESE	--	---	--	8	7	15	6.3	--
Valentine CO	2581	921.8	----	73	53	63.1	-4.2	92	29	40	9	1	0	--	--	2.43	-.73	.89	13	8	T	0	9.2	---	27	NW	8	6	9	15	6.7	62
NEVADA																																
Elko	5075	844.2	1013.4	79	42	60.3	.0	94	8+	32	2	4	1	35	43	.52	-.18	.34	4	3	.0	0	6.1	WSW	*40	W	12	11	13	6	4.7	--
Ely	6257	809.0	1013.4	75	41	57.6	-2.0	88	8	29	1+	0	4	30	40	.76	.26	.44	2	2	1.7	1	10.4	---	34	SW	30	15	8	7	4.2	80
Las Vegas	2162	943.4	1007.2	97	66	81.6	-2.0	111	8	49	2	25	0	26	16	.39	.26	.39	1	1	T	T	12.0	SW	*32	WNW	13+	23	5	2	1.8	95
Reno	4397	861.5	1013.7	82	43	62.3	.8	98	8+	30	1	5	1	38	42	T	-.42	T	0	1	.0	0	7.7	WNW	45	NW	12	22	4	4	2.6	87
Winnemucca	4299	866.6	1012.4	82	44	63.1	-.9	97	8	32	24+	10	2	32	34	.35	-.44	.33	2	1	.0	0	9.0	---	43	W	22	15	8	7	3.9	77
NEW HAMPSHIRE																																
Concord	339	1001.5	1012.4	76	53	64.5	.4	93	18	42	10	2	0	55	75	2.18	-1.44	1.06	11	6	.0	0	3.6	NW	26	N	3	4	10	16	6.8	48
Mt. Washington	6262	806.2	------	50	40	45.1	.7	64	19+	29	1	0	4	--	90	8.53	2.27	1.57	17	0	T	0	21.7	W	73	SW	22	2	5	23	8.2	27

See footnotes at end of table.

CLIMATOLOGICAL DATA

ble 2—Continued

State and station	Elevation (ground) Ft.	Pressure: Station Mb	Pressure: Sea level Mb.	Temperature: Average maximum °F	Temperature: Average minimum °F	Temperature: Average °F	Temperature: Departure from normal °F	Temperature: Highest °F	Temperature: Date	Temperature: Lowest °F	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F or below	Average dew point °F	Average relative humidity %	Precipitation: Total In.	Precipitation: Departure from normal In.	Precipitation: Greatest in 24 hours In	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet, Hail: Total In.	Snow, Sleet, Hail: Max depth on ground In	Wind: Average hourly speed M p h.	Wind: Prevailing direction	Fastest mile: Speed M. p h.	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0–3	No. of days: Partly cloudy 4–7	No. of days: Cloudy 8–10	Sky cover, tenths (sunrise to sunset) 0–10	Possible sunshine %
NEW JERSEY																																
lantic City	8	1009.2	-	74	61	67.3	-1.4	88	29	51	10	0	0	-	--	6.29	3.30	3.15	11	7	T	T	14.6		52	NE	8	6	13	11	6.1	61
wark	11	1011.8	1013.0	78	60	68.9	-1.6	91	23	51	9	5	0	56	67	2.94	-.86	.76	13	6	.0	0	9.9	WNW	•29	NE	4	9	6	15	6.3	--
enton	56	1005.9	1012.8	78	60	68.7	-2.1	90	22	51	9+	1	0			4.13	.26	1.47	13	7	T	T	8.1		36	SE	5	10	8	12	5.9	57
NEW MEXICO																																
buquerque	5310	847.6	1008.6	89	59	73.9	-1.0	98	24	49	10	15	0	30	25	.33	-.39	.33	2	2	.0	0	10.6	S	55	SE	10	21	5	4	2.7	92
ayton	4969	845.2	1011.6	81	52	66.5	-3.1	94	24	41	10	5	0	--	-	.19	-1.72	.13	4	5	.0	0			-	---	-	15	11	4	3.9	--
swell	3612	891.3	1009.8	93	59	75.7	1.1	101	24+	45	4	24	0	40	33	.15	-1.32	.06	5	5	.0	0	10.0		43	S	1+	19	7	4	3.3	--
NEW YORK																																
bany	277	1008.6	1012.4	78	56	67.0	.0	92	18	47	10+	2	0	56	72	2.05	1.32	.40	13	11	.0	0	6.2	S	26	W	30	6	11	13	6.6	54
nghamton	1601	955.0	1013.5	74	55	64.3	.1	86	18	45	1	0	0	53	70	2.48	-1.17	.74	11	6	T	T	10.4	NW	37	NW	21	4	12	14	6.8	62
ffalo	693	986.5	1014.3	78	56	66.8	1.3	92	18	48	3	2	0	55	68	.11	-2.59	.09	3	0	.0	0	11.6	SW	31	SW	22+	10	12	8	5.6	77
w York CO	10	1001.4	------	76	61	68.6	1.2	88	29	51	9+	0	0	-		2.17	-1.53	.39	11	6	0	0	10.5	---	42	W	21	9	10	11	5.6	55
w York	19	1011.3	1013.2	78	62	70.0	1.0	90	30+	51	9	4	0	56	65	2.02	-1.36	.72	14	5	.0	0	11.0	WNW	38	NE	8+	9	6	15	6.3	--
chester	543	994.4	1013.5	79	56	67.5	.9	91	7	46	3	2	0	55	65	1.09	-1.76	.56	3	2	.0	0	10.7	SW	34	W	22	12	9	9	5.0	75
henectady	217	------	------	78	58	68.0	.0	92	18	47	3	1	0		-	2.45	-1.41	.70	13	-	.0	0	--	- -	--	-	-	16	11	3	---	--
racuse	424	992.3	1014.0	79	57	68.3	.5	92	18	47	3	1	0	55	67	2.43	-1.25	1.57	8	9	T	T	9.8	WSW	43	N	19	12	9	9	5.4	64
NORTH CAROLINA																																
heville	2203	------	------	77	55	65.7	-5.6	85	22	45	1	0	0	--	--	2.97	-.55	.98	13	4	.0	0	6.1	- -	31	NW	7	7	13	10	5.7	63
arlotte	727	987.5	1014.8	85	61	73.1	-3.5	94	23+	52	15	8	0	58	65	2.31	-1.20	1.00	7	4	.0	0	8.1	SW	34	N	22	10	10	10	5.4	68
eensboro	891	983.6	1015.1	82	58	70.0	-4.6	93	22	48	1	4	0	56	65	1.86	-1.76	.90	10	5	.0	0	6.2	SW	24	WNW	7+	12	10	8	5.0	76
tteras CO	4	1013.8	1014.4	79	68	73.1	-2.5	84	6	60	10	0	0	64	75	5.47	1.10	1.94	9	9	.0	0	12.0	SSW	39	SW	23	11	11	8	5.0	--
leigh	433	998.9	1014.6	83	59	71.0	-4.7	95	22	48	4+	6	0	58	69	2.13	-1.96	.73	10	6	.0	0	7.7	N	•23	NW	14	9	14	7	5.2	57
lmington	30	1013.3	---- -	84	64	73.7	-3.9	95	6	53	2	6	0	--	-	3.17	-1.32	1.33	10	8	.0	0	10.1	---	31	S	11+	11	12	7	4.8	71
nston-Salem	967	980.2	1015.1	82	59	70.7	-4.2	92	22	50	1	5	0	57	64	1.99	-1.61	1.15	9	5	.0	0	8.8	NE	•29	WSW	25	12	10	8	4.9	--
NORTH DAKOTA																																
smarck	1650	953.3	1013.3	74	51	62.6	-1.7	92	29	39	8	1	0	52	71	4.59	1.26	1.23	15	11	T	T	11.4	WNW	39	SW	16	9	7	14	6.1	64
vils Lake CO	1471	960.0	- ---	73	52	62.3	-.1	89	29	40	12	0	0	--	--	2.56	-.62	.72	13	6	.0	0	7.9	---	30	SW	30	12	5	13	5.7	55
rgo	895	978.7	1012.8	76	55	65.4	.8	91	30	45	13	1	0	54	70	2.62	-.42	.54	11	8	.0	0	14.1	S	49	W	19	10	7	13	5.8	63
lliston CO	1877	946.5	1013.5	73	52	62.1	-.9	90	29	42	12	1	0	49	62	2.36	-1.23	1.09	10	5	.0	0	7.4	---	22	NW	8+	7	10	13	6.5	62
OHIO																																
ron	1210	977.4	1015.5	76	54	65.0	-3.4	87	18+	45	15+	0	0	53	69	2.47	-1.37	.75	11	6	.0	0	9.0	SE	--	---	--	11	8	11	5.4	--
ncinnati Obs.	761	------	------	79	58	68.5	-4.3	89	29+	51	14+	0	0	--	--	1.73	-2.32	.55	9	5	.0	0	4.5	--	19	NW	21	--	--	--	---	69
ncinnati	869	983.0	1014.7	79	57	67.6	-4.2	88	21+	47	1	0	0	55	69	2.39	-1.65	1.16	8	3	.0	0	7.1	SSW	•23	SSW	11+	8	9	13	6.2	--
eveland	787	987.1	1014.6	79	56	67.9	-1.5	92	18	47	15	4	0	55	66	2.68	-.37	.86	8	5	.0	0	7.3	SSE	27	W	30	11	6	13	5.6	71
lumbus CO	724	- ----	---- -	79	59	69.0	-3.0	90	30	51	14	1	0	-	--	3.17	-.49	1.40	10	--	T	0	----	---	--	---	--	-	--	--	---	--
lumbus	815	985.0	1014.8	79	55	66.9	-3.8	91	30	45	1	1	0	56	68	2.63	1.70	.67	10	6	T	0	6.2	SE	43	NW	21	8	8	14	5.9	64
yton	1002	978.7	1014.6	78	58	67.9	-3.0	88	30+	50	14	0	0	54	67	2.80	-1.10	.77	12	5	T	0	9.3	NW	37	W	21	7	11	12	6.0	69
rtsmouth CO	15	990.7	------	79	55	67.3	-4.4	92	30	47	1	3	0	-	--	3.52	.11	1.38	10	5	T	T	3.4	---	%70	W	6	--	--	--	---	--
ndusky	603	992.6	------	78	59	68.5	-1.4	91	6	51	15+	2	0	--	--	2.70	-1.03	1.61	6	1	.0	0	5.9	--	18	SW	30	12	13	5	4.3	73
ledo	676	989.0	1014.2	79	55	67.3	---	92	19	48	24	3	0	53	65	2.75	----	1.48	10	5	.0	0	9.4	W	38	W	30	11	11	8	5.5	73
ungstown	1178	972.9	1015.2	76	54	65.0	-3.0	86	18	46	2	0	0	54	71	3.23	-.48	1.75	8	5	T	0	6.8	SW	•32	WSW	11	10	9	11	5.4	--
OKLAHOMA																																
lahoma City	1280	970.2	1013.1	83	63	73.1	-4.4	92	26	50	10	4	0	61	70	6.68	2.75	3.64	11	11	.1	T	13.2	SSE	59	NW	15	6	17	7	5.7	--
lsa	672	989.2	1013.1	85	65	74.9	-2.6	95	21	51	11	8	0	61	64	1.56	-3.59	.62	10	8	T	0	10.9	S	43	W	5	5	12	13	6.0	74
OREGON																																
toria	8	1018.0	1019.0	62	49	55.3	-2.3	93	8	38	19	1	0	49	81	2.73	.41	1.25	15	1	.0	0	6.6	W	--	---	--	3	4	23	8.2	--
rns CO	4140	872.7	1013.5	77	47	61.8	1.3	93	8+	33	1	2	0	34	41	.68	-.17	.64	3	5	.0	0	----	---	--	---	--	11	13	6	4.9	--
gene	361	1004.4	1018.0	73	47	60.0	-1.3	93	8	36	16	1	0	--	--	.86	-.51	.54	7	0	.0	0	7.7	--	--	---	--	4	9	17	6.8	--
acham	4050	------	------	68	43	55.9	1.8	85	21	30	1	0	2	--	--	1.31	-1.30	.66	8	4	T	T	----	---	--	---	--	10	12	8	5.4	--
dford	1312	968.5	1015.8	80	50	65.2	.3	101	8	37	1	5	0	45	52	.07	-.90	.07	1	3	.0	0	7.6	WNW	•30	NW	22	12	13	5	4.2	--
ndleton	1492	961.4	1014.3	80	53	66.7	.0	96	11	42	16	7	0	41	44	.41	-.80	.22	5	1	.0	0	12.5	W	•44	W	2+	12	12	6	4.6	--
rtland	21	1012.2	1017.7	71	51	60.7	-1.9	95	9	44	16	2	0	49	69	1.83	.11	.96	13	1	.0	0	6.6	NW	25	W	30	3	8	19	7.7	36
seburg	505	999.0	1017.6	75	48	61.4	---	96	8	37	16	3	0	-	--	.45	-.90	.21	7	1	.0	0	5.8	---	18	NW	1+	8	8	14	6.0	59
lem	195	1010.5	1017.8	73	47	59.9	-2.9	98	8	37	16	2	0	48	69	1.09	-.13	.71	6	0	.0	0	6.8	WNW	--	---	-	5	7	18	7.2	--
xton Summit CO	3836	------	------	68	46	56.7	.7	91	8	32	1	1	1	-	--	.39	-1.11	.12	6	2	.0	0	----	---	--	--	--	13	11	6	4.5	--
PENNSYLVANIA																																
lentown	376	999.9	1014.0	78	56	67.0	-2.6	89	17+	48	10	0	0	56	72	3.66	-.39	1.66	10	4	.0	0	8.3	WSW	--	---	--	7	11	12	6.2	--
rrisburg	335	1000.2	1013.9	78	59	68.7	-2.4	90	17	51	9	1	0	54	63	4.09	.45	2.17	7	3	.0	0	6.8	W	29	W	13	8	10	12	6.2	63
iladelphia CO	26	------	------	78	61	69.9	2.7	90	29	53	10+	1	0	-	--	3.99	.02	2.29	11	-	---	--	----	---	--	---	--	--	--	--	---	--
iladelphia	10	1008.9	1013.2	79	60	69.2	-2.9	90	22	50	10	1	0	57	69	4.06	.19	2.20	12	6	.0	0	9.7	WSW	35	E	8+	7	11	12	6.3	61
ttsburgh CO	749	------	------	77	58	67.6	-4.1	89	30+	50	2	0	0	--	--	3.94	.11	2.66	10	--	.0	0	----	---	--	---	--	--	--	--	---	64
ttsburgh	1151	984.8	1015.2	75	55	65.1	3.5	86	30+	48	26+	0	0	54	68	3.20	-.87	1.93	10	3	.0	0	8.2	WSW	•32	ESE	7	6	14	10	6.0	43
ading CO	266	1001.4	1012.9	80	60	69.7	-1.6	91	22	52	9	2	0	--	-	5.03	1.27	1.89	11	5	T	T	9.1	--	43	W	12	4	11	15	6.8	51
ranton	940	980.0	1014.1	77	55	66.0	-2.1	89	18	48	3+	0	0	--	-	.99	-2.86	.64	9	4	.0	0	6.5	SW	28	NE	3	8	10	12	6.1	54
ippingport CO	740	------	------	76	53	64.7	---	87	18+	45	3	0	0	--	-	2.99	----	1.63	10	6	.0	0	2.3	---	%35	W	30	--	--	--	---	--
lliamsport	527	995.0	------	80	56	67.6	-1.6	91	20	47	3	2	0	--	--	1.77	1.65	.86	9	--	.0	0	----	---	--	---	--	7	11	12	5.9	--
RHODE ISLAND																																
ock Island	110	------	------	70	55	62.3	-.7	82	29	45	8+	0	0	--	--	81	-2.05	.38	9	0	.0	0	----	---	--	---	--	10	7	13	---	--
ovidence	55	1006.3	1012.5	75	56	65.2	-.4	88	30+	44	10+	0	0	56	74	3.72	.55	1.40	14	6	T	0	8.3	SW	•29	NW	21	6	10	14	6.3	56
SOUTH CAROLINA																																
arleston CO	9	------	------	84	70	76.8	-2.8	92	6+	61	16	2	0	--	--	2.86	-1.43	1.47	8	9	.0	0	10.8	---	31	E	18	11	7	12	5.4	76
arleston	41	1012.9	1014.9	85	65	75.0	-2.9	93	5	54	3+	3	0	64	72	3.47	-1.25	1.82	11	7	.0	0	11.3	SSW	--	---	--	8	11	11	6.0	--
lumbia	217	1005.7	1013.9	87	62	74.6	-4.9	96	23	51	2+	9	0	61	66	1.26	-2.79	.76	6	5	.0	0	7.5	SW	•23	WSW	12+	9	14	7	5.2	82
orence	146	1009.0	------	86	63	74.3	-4.7	94	6	55	3+	8	0	--	--	2.47	-2.41	.75	10	6	.0	0	-- -	---	--	---	--	12	9	9	4.9	--
eenville	1018	977.7	1014.5	82	61	71.8	-4.8	93	22	53	9+	2	0	--	--	3.27	.27	1.68	10	8	.0	0	10.1	NE	35	SW	23+	6	15	9	5.8	68
artanburg	801	------	------	82	62	72.0	-5.2	91	22	53	15+	2	0	56	61	3.47	.47	1.45	9	7	.0	0	7.8	---	•29	SW	23	--	--	--	---	--
SOUTH DAKOTA																																
ron	1282	966.1	1012.4	78	55	66.1	-2.1	91	29	41	13	2	0	54	69	2.39	-.67	.63	15	9	.0	0	11.1	SSE	46	W	2	10	10	10	5.5	71
apid City	3165	900.8	1013.6	73	51	62.2	-1.5	99	29	39	9	2	0	48	64	2.14	1.22	.43	10	9	T	0	12.1	NW	56	NW	8	7	8	15	6.6	44
ioux Falls	1420	962.4	1013.1	77	55	66.1	-1.9	92	30	43	13	1	0	52	66	4.24	-.01	2.11	12	7	T	T	10.4	SSE	•32	SW	3	9	8	13	6.1	--
TENNESSEE																																
ristol	1519	961.6	------	79	56	67.6	-4.7	88	22+	44	1	0	0	--	--	2.20	-1.47	.81	10	6	T	0	----	---	--	---	--	7	11	12	6.0	--
hattanooga	670	988.1	1015.2	83	60	71.5	-4.3	91	22	52	2+	1	0	60	73	3.29	-.92	1.10	10	6	T	0	5.1	NNE	39	W	25	10	12	8	5.5	70
noxville	950	980.5	1015.5	81	60	70.5	-5.3	89	30+	51	1	0	0	58	69	3.65	.18	1.22	11	4	T	0	7.0	NE	37	W	7	6	12	12	6.0	62
emphis CO	271	------	------	83	66	74.3	-4.4	91	24+	55	11	4	0	--	--	6.89	3.64	1.69	10	--	T	T	----	---	--	---	--	--	--	--	---	--
emphis	263	1000.3	1014.9	85	64	74.2	-4.1	94	22	54	11+	8	0	62	69	4.02	.69	1.63	12	7	.0	0	7.9	NE	29	S	5	9	13	8	5.6	73
ashville	577	995.4	1015.2	83	60	71.4	-5.5	91	30+	50	1	9	0	60	71	2.94	-.25	1.20	11	6	T	0	4.9	S	36	NW	7	11	9	10	5.4	70
ak Ridge CO	905	983.0	------	80	57	68.7	-7.1	90	22	48	1	1	0	--	--	4.42	.51	1.44	11	5	T	T	4.3	---	19	SW	11	6	13	11	5.9	--

See footnotes at end of table.

Table 2--Continued

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	
	Ft	Mb	Mb	°F	°F	°F.	°F	°F		°F		#		°F	%	In.	In.	In			In.	In.	M p. h.		M. p. h.			0–3	4–7	8–10	0–10
TEXAS																															
Abilene	1759	951.6	1011.2	90	67	78.4	-1.4	101	25	53	11	21	0	61	59	4.71	1.92	2.05	10	10	T	0	14.3	SSE	58	S	29	14	14	2	3.7
Amarillo	3590	887.9	1010.8	86	58	71.7	-1.9	101	24	42	10	11	0	51	57	1.49	1.76	.72	6	8	T	T	13.9	SSE	61	S	19	13	10	7	4.5
Austin	615	991.9	1013.2	91	68	79.6	-1.9	97	27+	57	10	23	0	66	68	2.61	.59	1.31	8	8	T	0	10.2	SSE	42	NE	8	9	18	3	4.4
Brownsville	16	1010.5	1012.7	91	74	82.6	-.1	94	9+	66	12	22	0	71	72	.01	3.35	.01	1	1	.0	0	13.6	SE	32	NE	10	8	20	2	4.7
Corpus Christi	40	1012.2	1013.1	92	73	82.4	1.4	97	8	61	10	26	0	71	72	.28	-2.60	.18	2	1	.0	0	12.5	ESE	40	NW	6	12	14	4	4.3
Dallas	487	995.6	1013.8	90	68	78.8	-3.1	97	27	55	11	17	0	63	63	4.63	1.18	1.50	8	9	T	0	12.1	SSE	49	W	8	12	15	3	4.1
Del Rio	1091	977.7	1011.1	95	71	83.0	.3	103	25	55	10	25	0	63	56	1.02	-1.40	.49	3	2	.0	0	12.8	- -	49	NE	8	14	12	4	4.2
El Paso	3920	884.5	1008.9	93	67	79.8	-.4	103	8	56	3+	20	0	37	24	.18	-.44	.16	2	1	.0	0	13.2	W	49	NE	21	21	5	4	2.8
Fort Worth	544	993.2	1013.8	88	68	78.0	-3.4	96	27	55	11	13	0	64	65	4.99	1.60	1.89	8	10	T	0	10.9	S	*52	NW	8	12	15	3	4.1
Galveston CO	7		-	85	75	80.0	-1.5	88	27+	60	10	0	0	--	--	1.76	-1.59	.85	6	--	.0	0	11.0	---	35	NW	10	--	--	--	---
Galveston	5	1012.5	1014.7	86	75	80.2	-1.6	89	25+	60	10	0	0	72	79	1.51	-1.84	.65	6	5	.0	0	11.6	S	--	--	--	13	16	1	3.6
Houston CO	41	1009.1	---	89	72	80.3	-1.5	94	27	57	10	16	0			2.50	-1.58	1.30	6	7	.0	0	9.0	--	28	N	10	8	20	2	4.8
Houston	50	1011.5	1013.9	90	69	79.4	-1.1	95	15+	57	10	15	0	67	70	1.56	-2.13	.79	7	4	.0	0	11.5	S	--	--	--	7	20	3	4.9
Laredo	500	995.9	1010.7	99	74	86.6	1.0	105	25	59	10	29	0	66	56	.79	-1.30	.51	2	2	.0	0	13.8	SE	*32	NE	10	13	13	4	4.2
Lubbock	3243	901.5	1010.3	90	61	75.8	-.6	102	24	47	10	19	0	55	56	2.30	-.23	.52	10	12	T	T	14.4	S	*63	NE	8	15	11	4	4.2
Midland	2854	913.6	1010.3	93	66	79.2	.9	104	25	53	11	22	0	53	47	1.88	-.08	.97	9	7	.0	0	10.3	SSE	*40	NNE	8	17	9	4	3.3
Port Arthur	16	1013.2	1014.6	89	69	78.9	-1.2	94	27+	59	10+	15	0	69	75	4.47	-.31	1.89	8	10	.0	0	8.6	S	38	NW	8	11	17	2	4.4
San Angelo	1903	945.5	1011.4	92	68	80.1	-.5	102	25	53	10	23	0	58	51	3.06	1.24	2.68	6	6	T	T	12.5	S	*57	NNE	8	17	11	2	3.8
San Antonio	792	987.8	1012.8	93	70	81.4	-.6	98	8+	58	10+	26	0	65	63	2.88	-.32	1.72	6	6	.0	0	9.9	SSE	57	NE	8	11	16	3	4.2
Victoria	110	1008.8	1013.2	92	70	81.0	-2.1	97	8+	59	10	26	0	68	66	1.97	1.27	.93	6	5	.0	0	10.8	---	%49	NNW	5	9	20	1	4.4
Waco	500	994.9	1013.2	90	68	78.8	-3.0	96	27	58	12	19	0	65	67	2.01	1.18	.87	8	9	.0	0	12.4	S	--	---	--	11	16	3	4.4
Wichita Falls	1027	976.0	1012.1	89	66	77.6	-2.0	98	25+	51	10	17	0	62	61	4.94	1.54	1.67	8	8	.0	0	11.7	SE	*46	NW	3	16	12	2	4.2
UTAH																															
Milford	5028	843.2	1012.1	82	47	64.3	-1.5	97	22	35	3	7	0	-	--	.34	.11	.21	6	3	T	0	----	---	--	---	--	18	6	6	3.7
Salt Lake City	4220	865.6	1011.4	80	52	66.3	-.8	97	22	42	2+	5	0	41	45	.95	.04	.42	5	2	.0	0	9.6	SSE	42	W	27	16	7	7	4.3
VERMONT																															
Burlington	331	997.5	1012.0	78	56	66.7	1.2	91	18	43	3	1	0	56	70	4.05	.48	2.57	10	8	.0	0	8.2	S	26	NW	22	5	12	13	6.6
VIRGINIA																															
Lynchburg	947	981.6	-	78	57	67.7	5.1	89	22	48	1	0	0		-	4.92	1.04	1.94	10	5	.0	0	7.1	---	29	SW	12+	13	10	7	4.6
Norfolk	26	1012.9	1014.1	81	63	71.9	-2.8	93	22	54	4	2	0	60	70	2.47	-1.69	.85	13	7	.0	0	8.2	WSW	30	S	11	15	5	10	4.5
Richmond	162	1008.8	1014.5	81	59	70.1	-4.2	93	22	50	4+	3	0	59	71	3.06	-.81	.93	8	6	.0	0	7.3	W	29	S	23	11	12	7	4.8
Roanoke	1174	973.5	1015.2	80	56	68.0	-4.7	91	22+	46	1	3	0	55	67	3.70	.00	1.68	10	4	.0	0	5.6	W	--	---	--	11	7	12	5.4
WASHINGTON																															
Olympia	190	1010.5	1017.8	69	46	57.7	-1.2	97	9	35	19	1	0	45	68	.71	-.57	.41	11	1	.0	0	7.1	SW	*23	W	23+	5	4	21	7.6
Seattle CO	14	--- -	------	68	52	59.6	-2.2	100	9	46	14	1	0	--	--	1.66	.41	.45	12	0	.0	0	8.7	---	23	N	10+	6	3	21	7.2
Seattle	14	1016.9	1018.0	--	-	- -	---	---	--	--	--	--	--	48	69	----	--	----	--	--	---	--	8.2	SSW	--	---	--	--	--	--	---
Seattle-Tacoma	379	1004.1	1018.3	67	49	58.0	-1.9	96	9	43	14+	1	0	47	73	1.27	-.03	.40	13	0	.0	0	12.4	SW	*28	SW	22	5	4	21	7.4
Spokane	2357	945.5	1013.8	75	50	62.7	1.3	96	21	40	1+	2	0	40	47	.80	-.37	.56	4	2	.0	0	8.3	SW	35	SW	22	9	10	11	5.5
Stampede Pass CO	3958	880.5	1019.1	55	40	47.5	-2.9	79	10	30	30	0	2	--	--	3.08	-.89	1.54	13	0	4.5	92	----	---	--	---	--	8	2	20	7.0
Tatoosh CO	101	1015.2	1018.4	56	47	51.6	-2.4	82	9	45	7+	0	0	48	89	4.82	2.24	1.94	16	0	.0	0	10.8	S	40	E	9	1	4	25	8.9
Walla Walla CO	949	978.3	1013.5	81	56	68.4	.5	97	11	46	1	7	0		--	.30	-.91	.18	4	0	.0	0	6.6	---	29	W	22	14	11	5	4.1
Yakima	1061	975.6	1014.4	81	50	65.4	.0	97	11	36	16	7	0	42	46	.41	-.18	.25	4	3	T	T	7.4	NNW	--	---	--	13	9	8	5.0
WEST VIRGINIA																															
Charleston	950	980.0	1015.2	77	54	65.8	-6.2	90	6	44	1	1	0	56	75	2.07	-1.86	.74	10	4	.0	0	6.2	SW	*23	SSW	11+	6	12	12	6.4
Elkins	1969	--- --	------	73	49	61.0	-5.5	86	6	38	2+	0	0		--	3.13	2.13	.84	11	5	.0	0	4.8	WNW	*25	N	26	0	19	11	7.2
Huntington CO	565	----	- ---	80	56	68.1	-6.0	90	5+	48	1	5	0	--	--	3.83	.51	.96	11		.0	0	----	---	--	---	--	--	--	--	---
Parkersburg	615	---	--- -	78	56	67.3	-5.1	90	30	46	2+	1	0	--	--	3.75	-.43	1.87	9	5	.0	0	4.6	---	26	NW	21	11	9	10	5.4
WISCONSIN																															
Green Bay	689	991.2	1013.9	76	54	64.9	.2	86	30	44	1	0	0	55	73	3.25	.32	.81	11	8	T	0	7.9	S	34	SW	19	7	10	13	6.0
La Crosse	652	989.2	1013.5	77	57	67.1	-1.5	94	30	46	10	1	0	55	64	1.66	-2.21	.69	11	8	T	0	7.5	S	*29	WSW	20	7	11	12	5.9
Madison	857	979.3	1014.2*	77	54	65.5	-1.9	91	30	40	10	2	0	55	70	2.78	-1.24	.89	11	7	.0	0	8.8	S	32	W	23	9	7	14	6.2
Milwaukee	675	989.8	1014.6	75	56	65.2	.3	90	30	46	10	1	0	54	71	4.58	1.36	1.51	14	5	T	T	9.6	SE	33	SW	4	11	6	13	5.6
WYOMING																															
Casper	5322	836.8	1011.8	73	48	60.4	-1.6	88	21+	38	2	0	0	40	56	2.07	.59	.51	10	8	T	T	11.9	E	*33	NW	26	9	12	9	5.8
Cheyenne	6131	812.1	1012.7	70	46	58.1	-2.2	87	23+	35	4+	0	0	42	64	5.32	3.22	2.68	18	13	1.5	1	12.1	NW	56	NE	9+	4	13	13	6.4
Lander	5563	835.1	1012.8	73	47	60.2	-1.3	92	23	35	2	2	0	41	53	1.93	.58	.46	8	9	T	T	7.3	---	43	SW	26	10	10	10	5.6
Sheridan	3942	883.8	1014.1	73	49	60.9	-.5	89	21	42	1+	0	0	48	66	1.76	.84	.49	13	11	T	T	8.9	NW	42	NW	2	6	11	13	6.3
PACIFIC AREA																															
Canton Island	9	1010.2	1010.7	87	78	82.6	-1.7	90	10	75	8+	1	0	73	76	.76	-2.04	.28	7	0	.0	0	----	---	--	---	--	12	11	7	4.9
Hilo	31	1016.9	1018.3	79	66	72.2	-2.2	82	30	64	3+	0	0	65	80	4.80	-1.95	.68	26	0	.0	0	6.6	WSW	*21	NE	28	0	5	25	8.7
Honolulu	7	1017.6	1018.3	81	70	75.8	-2.1	83	5+	65	6	0	0	63	65	.08	-.15	.04	4	0	.0	0	13.8	ENE	30	NE	23	4	20	6	6.3
Koror CO	94	1006.1	1009.8	87	74	80.7	-.5	89	10+	72	4+	0	0	76	86	17.81	5.36	4.13	28	8	.0	0	----	---	--	---	--	0	3	27	9.0
Lihue	115	1013.5	1018.8	81	70	75.1	-1.1	82	14+	65	8	0	0	66	75	.80	-.85	.19	17	0	.0	0	14.0	NE	29	NE	18	0	12	18	8.0
Ponape CO	112	1005.1	1010.5	86	73	79.5	-1.5	89	8+	69	24	0	0	75	87	15.60	-.77	2.06	28	4	.0	0	----	---	--	---	--	1	1	28	9.1
Truk (Moen Island)	8	1009.8	1010.3	86	76	81.2	.7	87	2+	72	15	0	0	76	85	11.76	-1.46	3.35	25	0	.0	0	----	---	--	---	--	0	5	25	9.0
Wake Island	11	1014.9	1015.2	86	76	80.6	-.7	87	24+	72	6	0	0	73	77	1.42	-.38	.27	20	0	.0	0	13.2	E	--	---	--	15	11	4	4.4
Yap CO	53	1008.1	1010.0	88	76	81.6	-.5	91	10+	71	29	3	0	76	83	11.18	.79	3.47	26	0	.0	0	----	---	--	---	--	0	8	22	8.7
Majuro	10	1009.5	1009.8	85	75	80.0	---	87	7+	70	10	0	0	75	85	14.30	--	2.02	25	3	.0	0	----	---	--	---	--	0	7	23	8.5
WEST INDIES																															
San Juan, P.R. CO	47	--- --	- -	85	76	80.3	.8	91	9	74	16+	3	0	-	--	2.95	2.21	.68	19	--	---	--	----	---	--	---	--	--	--	--	---
San Juan, P.R.	9	1013.5	1015.6	88	72	80.0	---	91	16+	70	25+	6	0	72	78	2.19	-----	.91	14	3	.0	0	8.8	ENE	26	E	5	6	14	10	5.7
ALASKA																															
Anchorage	92	1007.1	1012.4	58	44	51.2	-2.5	72	18	37	2	1	0	40	65	1.18	.29	.42	12	0	T	T	9.4	S	*30	S	4	1	5	24	8.7
Annette	110	1013.5	1017.4	58	45	51.5	2.8	80	9	39	6+	5	0	45	81	8.37	3.68	2.37	12	0	T	0	10.8	SSE	*32	SE	3+	5	6	19	7.4
Barrow	22	1011.2	1011.8	36	29	32.3	1.6	50	23	22	2	0	25	32	95	1.15	.87	.82	6	1	T	8	9.4	NE	31	W	16	0	6	24	9.0
Bethel	10	1009.1	1010.8	51	40	45.6	7.0	62	17	33	5+	0	0	41	78	1.68	.48	.31	17	0	T	0	10.5	NW	*25	SW	12	1	1	28	9.3
Cordova	40	1012.2	1013.9	53	41	46.7	-2.6	61	23	29	6	0	2		--	4.30	.11	.79	19	0	.0	0	----	---	--	---	--	0	2	28	9.4
Fairbanks	436	991.2	1008.3	66	45	55.6	-3.7	77	23	35	3	13	0	43	65	3.52	2.15	1.52	13	1	.0	0	7.1	SW	*25	WSW	12	1	7	22	8.1
Juneau	15	1014.6	1015.3	59	42	50.5	-3.1	76	22	31	7	5	1	42	73	2.22	-.96	.44	19	0	.0	0	8.6	ESE	35	SE	10	2	2	26	8.5
Kotzebue	10	1009.5	1010.0	46	35	40.5	-2.8	63	28	26	17	0	13	37	86	.72	.23	.24	10	0	T	T	11.9	WSW	*35	WSW	11	1	8	21	8.3
McGrath	334	997.6	1010.2	60	42	50.8	-4.9	77	18	34	14+	2	0	41	68	.64	-1.42	.22	11	1	T	T	6.1	S	*20	SW	12	0	3	27	8.8
Nome	13	1009.5	1010.1	47	37	42.0	-3.8	56	10	29	5	0	5	38	85	1.27	.19	.39	13	0	T	0	10.2	SE	26	SW	11+	0	7	23	8.6
Northway	1713	-----	-- - -	63	43	52.8	-2.9	76	10+	32	3+	7	2	--	--	1.63	-.37	.59	14	2	T	T	----	---	--	---	--	0	8	22	8.3
St. Paul Island	22	1010.2	1011.4	42	36	38.9	-2.6	47	29	30	6+	0	6	37	94	.52	-.79	.30	8	0	T	T	----	---	--	---	--	0	0	30	9.8
Yakutat	28	1014.2	1015.2	53	40	46.6	-2.9	67	10	30	7	0	1	43	86	5.43	.47	1.41	18	0	T	0	8.9	ESE	*40	SE	10	0	6	24	8.8

Data from airport unless otherwise specified. CO indicates data from city office.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.
+ And also on a later date or dates.
% Peak gust.
a Maximum hourly average.
# Number of days Maximum 70° or above for Alaskan stations.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°)

ıble 3A

1954 - 1955

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ALABAMA														
irmingham	0	0	1	157	418	652	659	461	286	50	2	0	2686	2780
obile	0	0	0	76	258	424	442	258	169	20	0	0	1647	1612
ontgomery (CO)	0	0	0											1954
ontgomery	0	0	0	107	360	559	573	375	210	34	0	0	2218	2137
ARIZONA														
lagstaff	11	112	210	503	756	1094	1322	1183	923	743	517	270	7644	7525
hoenix (CO)	0	0	0	12	29	316	487	360	111	35	3	0	1353	1492
hoenix	0	0	0	14	39	336	500	390	117	37	3	0	1436	1698
rescott	0	0	11	172	461	829	996	825	608	447	182	47	4578	4533
ucson	0	0	0	13	91	364	560	445	175	74	13	0	1735	1776
inslow	0	0	0	195	542	967	1023	890	607	404	142	30	4800	4702
uma	0	0	0	2	13	263	398	282	67	22	2	0	1049	951
ARKANSAS														
t. Smith	0	0	1	148	394	689	739	624	419	82	0	6	3102	3188
ittle Rock	0	0	0	142	362	635	690	570	388	59	0	0	2846	2982
exarkana	0	0	0	111	321	519	613	493	300	59	0	1	2417	2362
CALIFORNIA														
akersfield	0	0	0	40	311	574	625	412	242	189	49	0	2442	2115
ishop	0	4	27	261	490	854	1164	757	596	447	223	30	4853	4222
lue Canyon	0	129	169	341	514	825	971	839	809	844	425	208	6083	5719
urbank	0	0	1	63	102	302	433	296	197	170	115	25	1704	1808
ureka (CO)	284	249	217	332	340	514	638	567	588	533	455	353	5070	4632
resno	0	0	0	82	372	650	716	495	337	300	87	5	3044	2532
os Angeles (CO)	0	0	0	30	81	213	345	223	142	125	88	14	1261	1451
os Angeles	0	0	3	79	106	228	397	268	178	184	124	36	1603	2015
t. Shasta (CO)	27	132	238	457	629	967	1050	833	785	754	359	166	6397	5913
akland	65	101	62	132	282	509	638	461	386	415	232	183	3466	3163
ed Bluff	0	5	6	68	364	672	684	485	336	355	53	4	3032	2546
acramento (CO)	0	0	4	77	378	644	680	453	319	308	79	19	2961	2600
acramento	0	0	7	107	409	658	707	481	338	335	82	18	3142	2822
andberg (CO)	0	40	34	196	386	735	917	720	582	559	364	130	4663	4243
an Diego	0	0	0	35	64	207	336	260	163	158	103	15	1341	1574
an Francisco (CO)	185	222	118	114	245	462	514	350	311	374	259	239	3393	3069
an Francisco	110	120	104	206	339	529	616	450	383	380	236	180	3653	3421
an Jose	4	22	32	106	276	477	572	416	313	347	149	56	2770	2410
anta Maria	63	94	121	202	208	398	558	449	365	395	316	225	3394	2934
COLORADO														
lamosa	23	114	232	547	927	1417	1458	1325	1039	764	484	202	8532	8659
olorado Springs	1	7	69	440	676	959	1165	1074	904	522	270	122	6209	6254
enver	0	4	71	395	616	934	1163	1054	878	444	203	105	5867	6132
rand Junction	0	0	35	314	669	1195	1265	1213	816	475	163	42	6187	5796
ueblo	0	0	28	341	609	905	1086	1038	774	377	139	40	5337	5709
CONNECTICUT														
ridgeport	0	1	77	238	608	939	1102	922	810	437	117	37	5288	5896
artford	1	16	140	300	694	1031	1198	961	874	449	129	68	5861	6139
ew Haven	6	4	116	275	651	963	1122	938	856	473	180	53	5637	6026
DELAWARE														
ilmington	0	0	36	249	630	920	1031	857	660	300	83	30	4796	4910
DISTRICT OF COLUMBIA														
ashington (CO)	0	0	8	218	567	841	909	747	526	197	34	15	4062	4258
ashington	0	0	8	209	587	857	910	756	549	209	47	16	4148	4333
FLORIDA														
palachicola (CO)	0	0	0	40	187	366	357	223	133	10	0	0	1316	1307
aytona Beach	0	0	0	32	146	301	274	149	117	7	0	0	1026	868
ort Myers	0	0	0	1	32	163	151	71	32	0	0	0	450	405
acksonville (CO)	0	0	0	50	186	337	327	196	123	8	0	0	1227	1113
acksonville	0	0	0	55	205	376	370	198	129	6	0	0	1339	1243
ey West (CO)	0	0	0	0	0	25	32	20	0	0	0	0	77	77
iami (CO)	0	0	0	0	[illegible]	69	87	39	15	0	0	0	214	173
iami	0	0	0	0	0	82	75	33	[illegible]	0	0	0	199	178
iami Beach	0	0	0	0	0	43	50	21	4	0	0	0	118	123
rlando	0	0	0	15	104	254	218	110	79	3	0	0	783	650
ensacola (CO)	0	0	0	60	214	379	405	236	162	14	0	0	1470	1435
allahassee	0	0	0	76	261	459	421	232	168	11	0	0	1628	1519
ampa	0	0	0	16	93	233	210	108	74	2	0	0	736	674
est Palm Beach	0	0	0	0	[illegible]	117	93	39	15	0	0	0	272	248
GEORGIA														
lbany	0													1763
thens	0	0	0	151	478	655	665	492	317	53	1	1	2813	2800
tlanta	0	0	0	145	460	652	654	480	304	56	0	0	2751	2826
ugusta	0	0	0	143	419	594	639	412	264	65	1	0	2537	2138
Columbus	0	0	0	130	393	579	607	385	230	33	0	1	2358	2396
Macon	0	0	0	114	360	532	555	353	214	30	0	0	2158	2049
Rome	0	0	0	209	525	750	761	546	364	77	5	0	3237	3138
Savannah	0	0	0	107	328	511	525	324	185	40	0	0	2020	1710
Valdosta	0													1525
IDAHO														
Boise	13	39	145	431	636	1062	1279	1052	887	621	353	69	6587	5890
Lewiston	7	38	131	492	630	984	1031	870	912	593	352	59	6099	5483
Pocatello	8	45	181	568	739	1360	1483	1225	1076	710	403	156	7954	6976
ILLINOIS														
Cairo (CO)	0	0	3	210	466	768	838	681	492	73	[illegible]	9	3542	3756
Chicago (CO)	0	0	29	302	629	982	1193	980	848	294	139	58	5454	
Chicago	0	0	31	329	666	1020	1238	1007	854	239	112	47	5543	6310
Chicago University	0	2	35	334	665	1018	1224	996	880	317	167	68	5706	
Moline	0	2	58	395	722	1108	1329	1107	891	236	100	44	5992	6364
Peoria	0	0	36	344	689	1046	1248	1030	836	190	90	41	5550	6087
Springfield	0	3	33	332	658	967	1143	933	762	167	75	35	5108	5693
INDIANA														
Evansville	0	2	16	289	567	863	978	770	586	157	38	29	4295	4360
Ft. Wayne	0	8	44	380	720	1060	1216	997	840	264	131	42	5702	6287
Indianapolis (CO)	0	0												5134
Indianapolis	0	0	30	343	682	1010	1156	911	751	235	101	51	5270	5611
South Bend	2	15	62	394	725	1097	1266	1063	893	323	184	54	6078	6524
Terre Haute	0													5366
IOWA														
Burlington	0	0	47	376	682	1070	1271	1060	837	219	106	39	5707	6101
Des Moines	0	3	48	401	669	1094	1337	1195	902	236	81	44	6010	6446
Dubuque	0	10	101	467	795	1228	1442	1230	1023	334	160	67	6857	7271
Keokuk (CO)	0		34	313	607	974	1165	1011	766	166	64	38		
Sioux City	0	1	65	444	661	1144	1321	1336	985	220	61	46	6284	7012
KANSAS														
Concordia (CO)	0	0	18	291	523	910	1078	1105	767	177	26	36	4931	5323

Data from airport unless otherwise specified.
CO indicates data from city office.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°)

Table 3A-Continued

1954 - 19

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
KANSAS (Cont'd.)														
Dodge City	0	0	15	299	498	853	974	976	703	214	54	29	4615	5058
Goodland	1	0	51	451	670	1010	1197	1085	883	393	144	97	5982	6367
Topeka (CO)	0	0	13	255	487	909	1024	1011	702	129	36	21	4587	4919
Topeka	0	0	13	258	525	928	1043	1024	709	150	45	22	4717	5209
Wichita	0	0	3	223	467	854	930	911	654	147	14	20	4223	4571
KENTUCKY														
Lexington	0	0	19	301	606	916	1014	795	569	196	58	34	4508	4979
Louisville (CO)	0	0	5	233	511	839								4279
Louisville	0	0	13	280	559	862	966	760	542	134	32	20	4168	4439
Pikeville (CO)	0	0	6	225	557	829	882	672	440	122	10	18	3761	
LOUISIANA														
Baton Rouge	0	0	0	69	226	374	427	276	165	22	0	0	1559	1595
Lake Charles	0	0	0	45	186	306	388	272	163	20	0	0	1380	1543
New Orleans (CO)	0	0	9	33	150	270	330	191	127	15	0	0	1125	1175
New Orleans	0	0	3	53	193	321	365	206	142	13	0	0	1296	1317
Shreveport	0	0	0	81	285	437	528	428	249	34	0	0	2042	2117
MAINE														
Caribou	121	174	381	636	963	1422	1664	1393	1388	813	468	162	9585	10173
Greenville (CO)	87	135	356	534	919	1379	1633	1324	1291	761	366	136	8921	
Portland	34	72	255	424	785	1160	1315	1065	1065	629	289	124	7217	7681
MARYLAND														
Baltimore (CO)	0	0	2	177	529	845	926	763	549	203	38	14	4046	4203
Baltimore	0	0	25	259	641	924	1005	849	620	274	76	27	4700	4787
Frederick	0	0	36	299	696	954	1039	912	660	295	101	40	5032	4854
MASSACHUSETTS														
Blue Hill Obs.	7	30	183	335	710	1067	1252	1015	963	588	210	128	6488	
Boston	0	11	107	248	612	941	1127	917	841	469	133	73	5479	5791
Nantucket	12	9	133	256	568	870	1078	904	863	633	358	158	5842	6102
Pittsfield	41	97	246	416	826	1223	1411	1123	1054	555	240	115	7347	7694
MICHIGAN														
Alpena (CO)	47	71	205	489	770	1233	1331	1216	1162	562	321	93	7500	8073
Detroit	10	5	71	350	705	1088	1196	1018	900	311	154	27	5835	6404
Detroit (Willow Run)	11	7	67	358	722	1100	1223	1031	900	293	139	30	5881	6469
East Lansing (CO)		15	84	393	735	1139	1248	1071	943	307	167	33	6135	
Escanaba (CO)	39	69	255	556	793	1195	1400	1293	1226	580	349	100	7855	8657
Grand Rapids (CO)	7	13	85	374	681	1077	1207	1048	939	301	161	34	5927	6474
Grand Rapids	13	24	114	413	746	1133	1259	1107	982	358	197	44	6390	7075
Lansing	17													6982
Marquette (CO)	76	72	285	596	808	1213	1361	1248	1241	542	351	125	7918	8529
Muskegon	18	27	111	423	729	1099	1237	1105	1000	404	236	64	6453	7089
Sault Ste. Marie	120	110	322	622	858	1351	1489	1357	1379	611	370	108	8697	9475
MINNESOTA														
Duluth (CO)	83	86	326	703	962	1378	1660	1491	1474	597	416	151	9327	9574
Duluth	56	88	348	714	984	1411	1704	1533	1500	574	368	127	9407	9937
International Falls	52	130	404	745	1053	1501	1925	1693	1674	554	343	110	10184	10600
Minneapolis	1	0	158	530	795	1281	1571	1411	1211	328	124	41	7451	7853
Rochester	0	20	180	561	839	1310	1553	1391	1171	392	175	68	7660	8095
St. Cloud	20	31	263	641	891	1349	1701	1551	1346	424	192	70	8479	8893
MISSISSIPPI														
Jackson	0	0	0	116	321	505	577	425	242	45	0	0	2231	2202
Meridian	0	0	0	135	350	564	1616	417	239	50	0	0	3371	2333
Vicksburg (CO)	0	0	0	96	263	437	520	404	224	35	0	0	1979	2000
MISSOURI														
Columbia	0	0	16	286	561	906	1024	890	663	121	54	29	4550	5113
Kansas City	0	0	7	247	478	864	1002	931	657	108	36	17	4347	4888
St. Joseph	0	0	21	291	566	964	1152	1101	749	157	50	26	5077	5336
St. Louis (CO)	0	2	11	258	521	850	954	794	611	88	20	22	4131	4469
St. Louis	0	2	14	281	568	869	983	808	622	107	28	26	4308	4699
Springfield	0	0	11	268	538	871	949	829	620	140	28	38	4292	4693
MONTANA														
Billings	3	11	174	518	626	944	1160	1243	1199	605	320	115	6918	7106
Glasgow (CO)	20	19	252	587	708	1121	1616	1494	1333	550	334	92	8126	8690
Great Falls	18	59	280	588	604	937	1204	1211	1297	728	475	162	7563	7555
Havre (CO)	20	28	239	566	676	1018	1466	1318	1279	711	370	120	7811	8213
Helena	14	82	285	687	772	1295	1378	1234	1357	767	480	197	8548	8250
Kalispell	93	140	356	744	805	1132	1258	1228	1286	754	559	194	8549	8055
Miles City	5	4	179	543	699	1095	1337	1332	1169	510	276	102	7251	7850
Missoula	37	122	300	677	790	1220	1316	1186	1221	750	528	199	8346	7873
NEBRASKA														
Grand Island	0	3	50	423	638	1008	1278	1253	924	258	81	73	5989	6311
Lincoln (CO)	0	0	32	352	589	974	1228	1182	839	188	45	42	5471	5865
Norfolk	0	3	68	451	668	1088	1298	1314	992	253	89	65	6289	7065
North Platte	0	2	77	498	737	1065	1378	1254	950	371	140	108	6580	6546
Omaha	0	0	36	359	575	1025	1242	1230	880	180	55	40	5622	6160
Scottsbluff	3	0	79	498	737	997	1392	1153	1006	514	199	123	6701	6841
Valentine (CO)	1	3	114	532	691	1057	1271	1324	1041	375	144	119	6672	7075
NEVADA														
Elko	10	88	275	591	786	1255	1603	1276	952	734	485	161	8216	7335
Ely	8	82	253	580	781	1208	1557	1313	1034	765	525	219	8325	7443
Las Vegas	0	0	0	63	229	649	733	591	336	168	40	2	2811	2425
Reno	9	83	217	470	700	1007	1238	916	808	702	355	124	6629	6036
Tonopah	0	17	73	361	607	1042	1505	1068	764	611	329	76	6453	5813
Winnemucca	6	79	260	539	766	1175	1456	1056	855	709	402	126	7429	6369
NEW HAMPSHIRE														
Concord	19	68	226	418	802	1192	1357	1091	1031	578	216	89	7087	7612
Mt. Washington	611	663	797	990	1343	1662	1866	1524	1708	1130	826	589	13709	
NEW JERSEY														
Atlantic City (CO)	0	0	16	177	539	857	976	849	658	402	160	40	4674	4741
Newark	0	0	53	234	601	916	1055	857	723	346	79	34	4898	5252
Trenton (CO)	0	0	45	244	611	915	1057	843	703	323	79	36	4856	5068
NEW MEXICO														
Albuquerque	0	0	3.	151	483	889	961	840	538	292	90	2	4249	4389
Clayton	0	0	31	314	553	826	973	935	719	398	177	54	4980	5138
Roswell	0	0	0	170	437	737	807	663	418	149	13	2	3396	3424
NEW YORK														
Albany	14	26	157	355	752	1142	1351	1128	982	455	155	41	6558	6962
Binghamton	32	48	191	412	833	1226	1400	1145	1030	491	242	89	7139	7537
Buffalo	7	30	132	357	693	1117	1240	1032	959	414	206	37	6224	6838
New York (CO)	0	0	44	213	569	898	1064	841	733	362	100	41	4865	5050
New York	0	0	30	186	537	878	1035	831	703	347	68	26	4641	4989
Rochester	9	37	157	359	701	1152	1282	1092	984	420	205	35	6433	6863

Data from airport unless otherwise specified.
CO indicates data from city office.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

able 3A-Continued

(Base 65°)

1954 - 1955

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
NEW YORK (Cont'd.)														
chenectady	2	22	149	330	716	1113	1316	1073	940	438	127	38	6264	
yracuse	4	34	138	331	717	1152	1354	1099	970	400	193	22	6414	6520
NORTH CAROLINA														
sheville (CO)	0	0	14	297	650	857	867	668	491	182	32	46	4104	4072
sheville	0	0	28	334	708	896	913	713	514	225	55	57	4443	
harlotte	0	0	0	173	492	713	731	532	356	84	0	1	3082	3205
reensboro	0	0	4	230	607	830	851	655	452	136	20	10	3795	3810
atteras (CO)	0	0	0	58	269	566	649	549	291	114	27	0	2523	2392
aleigh	0	0	1	201	530	767	802	590	372	109	17	3	3392	3369
ilmington	0	0	0	138	348	618	635	473	241	70	9	0	2532	2323
inston-Salem	0	0	1	215	588	812	814	647	438	127	21	9	3672	3721
NORTH DAKOTA														
ismarck	23	17	251	626	850	1237	1546	1586	1283	475	211	119	8224	9033
evils Lake (CO)	28	58	331	658	944	1356	1770	1671	1564	509	303	119	9311	9940
argo	16	21	246	619	906	1399	1713	1655	1487	424	195	75	8756	9274
rand Forks	21	38	296	657	973	1467	1829	1715	1637	478	248	83	9442	
embina	22	8	258	564	891	1429	1909	1599	1735	474	228	74	9191	
illiston (CO)	36	20	304	603	776	1171	1573	1551	1359	529	297	129	8348	9068
OHIO														
kron	11	11	79	393	736	1099	1241	1006	858	330	171	76	6011	6203
incinnati (CO)	0	0	5	256	540	854	967	748	553	144	36	14	4117	4532
incinnati	0	2	27	328	634	955	1069	835	633	203	73	41	4800	5195
leveland (CO)	2	0	38	295	619	957	1126	940						5717
leveland	3	2	45	328	663	1014	1173	950	812	268	126	35	5419	6006
olumbus	0	4	33	346	668	1008	1127	914	728	243	105	40	5216	5615
ayton	0	7	31	340	680	1021	1140	929	742	237	91	37	5255	5597
andusky (CO)	0	0	28	306	670	1002	1156	952	805	254	129	21	5323	5859
oledo	7	6	58	374	717	1072	1213	1004	869	288	145	34	5787	6394
oungstown	15	22	90	374	743	1105	1251	1011	871	335	190	70	6077	6172
OKLAHOMA														
klahoma City	0	0	0	153	392	724	807	698	491	117	5	15	3402	3644
ulsa	0	0	0	135	367	690	780	665	461	88	0	5	3191	3584
OREGON														
storia	219	158	185	373	426	659	737	658	728	637	482	293	5555	4995
urns (CO)	33	118	259	553	707	1182	1352	1105	965	791	457	142	7664	6918
ugene	74	87	175	434	457	746	802	693	706	598	375	162	5309	4779
eacham	128	240	361	632	721	1122	1198	1085	1165	915	698	288	8553	7888
edford	[illegible]	24	127	347	564	826	891	742	643	574	271	79	5090	4547
endleton	11	24	113	449	550	932	960	802	804	559	314	57	5575	5204
ortland (CO)	44	41	97	285	397	691	731	641	686	517	316	127	4573	4143
ortland	63	57	142	365	452	741	777	681	724	552	368	152	5074	4632
oseburg	40	46	167	413	484	750	785	692	676	571	332	137	5093	
alem	74	65	174	415	472	767	793	692	724	586	367	171	5300	4574
exton Summit (CO)	119	250	295	439	597	892	992	894	903	868	536	284	7069	6217
PENNSYLVANIA														
llentown	0	5	86	317	723	1023	1170	957	804	361	118	49	5613	5880
arrisburg	0	0	40	281	670	973	1065	914	705	291	80	29	5048	5258
hiladelphia (CO)	0	0	18	198	554	857	972	788	632	285	50	25	4379	4523
hiladelphia	0	0	27	216	583	889	996	803	632	272	61	32	4511	4866
ittsburgh (CO)	0	1	25	298	615	952	1051	829	656	202	88	37	4754	5048
ittsburgh	8	9	54	358	697	1066	1171	933	749	269	140	73	5527	5905
eading (CO)	0	0	36	252	630	924	1047	857	688	277	62	24	4797	5060
cranton (CO)	3	11	101	338	702	1054	1225	987	844	*362	170	59	5856	6047
illiamsport	1	8	82	327	724	1042	1180	987	793	333	115	36	5628	5898
RHODE ISLAND														
lock Island	5	4	94	229	572	889	1066	904	843	564	280	111	5561	5843
rovidence	6	13	118	284	658	976	1139	931	861	481	185	87	5739	6125
SOUTH CAROLINA														
harleston (CO)	0	0	0	68	254	468	472	360	169	31	0	0	1822	1769
harleston	0	0	0	106	319	522	531	359	197	52	0	1	2087	1973
olumbia	0	0	0	137	438	630	647	444	261	47	1	0	2605	2435
lorence	0	0	0	127	380	615	616	438	250	50	0	0	2476	2507
reenville	0	0	0	166	510	728	689	545	377	77	9	6	3107	3060
partanburg	0	[illegible]	0	165	510	715	694	545	373	80	5	3	3090	3044
SOUTH DAKOTA														
uron	1	0	112	558	761	1321	1449	1489	1130	311	117	71	7320	7902
ierre	0	0	105	541	707	1189	1312	1423	1099	330	5	81	6912	
apid City	1	0	110	562	665	1005	1266	1274	1119	451	203	140	6796	7535
ioux Falls	0	1	117	548	745	1299	1420	1452	1094	309	112	74	7171	7848
TENNESSEE														
ristol	0	0	10	286	622	883	945	692	522	186	19	28	4193	4148
hattanooga	0	0	3	204	527	761	968	550	370	80	6	1	3470	3384
noxville	0	0	1	215	563	813	808	600	404	109	8	9	3530	3590
emphis	0	0	0	164	431	670	720	581	398	64	0	0	3028	3137
ashville	0	0	4	226	498	768	832	652	448	91	5	6	3530	3513
TEXAS														
bilene	0	0	0	99	275	482	591	471	275	72	0	4	2269	2657
marillo	0	0	0	202	428	698	841	761	531	204	66	27	3758	4345
ustin	0	0	0	40	152	270	821	324	192	19	0	0	1818	1713
rownsville	0	0	0	0	17	87	112	110	66	0	0	0	392	617
orpus Christi	0	0	0	10	55	152	214	176	114	1	0	0	722	1011
allas	0	0	0	78	263	461	565	451	276	52	0	0	2146	2272
el Rio	0	0	0	34	169	297	434	264	133	7	0	0	1338	1407
l Paso	0	0	0	46	308	580	696	543	284	64	2	0	2523	2641
t. Worth	0	0	[illegible]	77	276	464	580	455	284	57	0	0	2193	2361
alveston (CO)	0	0	0	19	80	192	301	247	142	9	0	0	990	1211
alveston	0	0	0	23	95	206	307	253	145	7	0	0	1036	1233
ouston (CO)	0	0	0	30	119	216	336	258	157	18	0	0	1134	1276
ouston	0	0	0	36	151	260	347	259	162	15	0	0	1230	1388
aredo	0	0	0	6	48	151	259	181	96	3	0	0	744	781
ubbock	0	0	0	188	424	683	779	696	453	157	31	14	3425	3587
idland	0	0	0	105	319	517	678	504	277	69	3	3	2475	
ort Arthur	0	0	0	47	178	287	365	271	165	26	0	0	1339	1517
an Angelo	0	0	0	82	279	422	568	417	243	54	0	0	2065	2107
an Antonio	0	0	0	29	142	235	376	263	168	13	0	0	1226	1579
ictoria	0	0	0	19	87	206	296	220	136	5	0	0	969	1126
aco	0	0	0	61	228	389	508	387	231	30	0	0	1834	2025
ichita Falls	0	0	0	92	290	573	662	526	338	84	0	8	2573	3025
UTAH														
ilford	0	[illegible]	94	418	768	1138	1405	1285	832	590	307	83	6922	6445
alt Lake City (CO)	0													5463
alt Lake City	2	5	93	399	622	1070	1353	1142	871	572	257	85	6471	5866
VERMONT														
urlington	27	57	224	427	799	1290	1509	1252	1126	558	187	44	7500	7865

Data from airport unless otherwise specified.
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MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°)

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
VIRGINIA														
Lynchburg	0	0	9	256	630	857	1913	711	504	176	50	25	5131	4153
Norfolk	0	0	4	145	442	727	820	662	388	171	58	7	3424	3454
Richmond	0	0	5	220	561	826	898	690	450	155	67	12	3884	3955
Roanoke	0	0	14	268	651	865	915	725	506	167	41	28	4180	4152
WASHINGTON														
Ellensburg	57	64												6542
Olympia	165	166	209	484	520	793	810	752	799	633	426	230	5987	5501
Seattle (CO)	87	92	129	349	404	645	693	657	721	525	363	180	4845	4438
Seattle-Tacoma	147	130	182	440	474	744	793	745	795	605	438	221	5714	5275
Spokane	46	72	226	574	696	1072	1173	1033	1041	724	478	129	7264	6852
Stampede Pass (CO)	393	447	464	739	855	1215	1213	1144	1274	1026	883	519	10172	9149
Tatoosh Island (CO)	324	310	228	397	415	621	680	661	774	640	530	398	5978	5724
Walla Walla (CO)	5	7	77	389	464	891	948	752	748	503	281	36	5101	4848
Yakima	43	51	166	535	635	1033	1096	843	858	631	332	73	6296	5845
WEST VIRGINIA														
Charleston	0	5	24	305	636	905	987	761	548	205	59	59	4494	4417
Elkins	12	22	84	430	774	1078	1192	878	714	345	179	132	5840	5773
Huntington (CO)	0	0	12	263	593	871	943	734	517	171	38	24	4166	4073
Parkersburg (CO)	0	1	24	306	630	943	1018	805	614	207	63	207	4818	4750
Petersburg (CO)	0													4966
WISCONSIN														
Green Bay	21	55	204	536	847	1288	1526	1335	1176	479	267	64	7798	8259
La Crosse	0	9	129	491	803	1253	1476	1305	1123	326	133	47	7095	7650
Madison (CO)	1	10	109	430	782	1211	1421	1220	1067	331	159	66	6807	7300
Madison	0	14	122	452	806	1267	1422	1235	1061	348	177	72	6976	7417
Milwaukee	9	12	92	395	736	1137	1335	1122	1021	423	229	82	6593	7205
WYOMING														
Casper	0	4	113	580	738	1085	1317	1247	1209	644	307	170	7414	7638
Cheyenne	11	14	132	535	736	1001	1236	1165	1116	659	359	224	7188	7562
Lander	4	19	138	609	772	1214	1299	1290	1199	706	319	174	7743	8303
Sheridan	0	12	168	589	693	1114	1253	1260	1298	629	342	144	7502	7903
ALASKA														
Anchorage	215	269	490	775	1112	1825	1444	1384	1292	1012	647	407	10872	10789
Annette	345	159	310	577	568	879	839	840	979	733	617	399	7245	7096
Barrow	791	566	871	1360	1939	2502	2453	2563	2594	2003	1513	974	20129	19994
Bethel	331	407	593	911	1266	2171	1560	1816	1589	1402	784	573	13403	12880
Cordova	369	368	465	703	874	1392	1062	1036	1130	946	735	542	9622	9615
Fairbanks	208	263	663	1040	1567	2688	2114	2166	1699	1297	583	276	14564	14158
Juneau	326	273	467	681	792	1136	1016	994	1146	802	681	429	8743	8888
Kotzebue	472	412	740	1168	1631	2554	1939	2379	2065	1731	1098	727	16916	16151
McGrath	251	341	658	1035	1582	2610	2041	2071	1632	1429	671	419	14740	14390
Nome	521	489	686	1014	1341	2179	1599	1980	1843	1563	894	683	14792	14086
Northway	262	367	750	1304	1623	2700	2405	2139	1808	1240	762	360	15720	15506
St. Paul	633	556	594	892	925	1228	1192	1095	1268	1200	999	777	11359	10839
Yakutat	403	373	469	702	814	1239	1043	1022	1110	942	788	546	9451	9354

Data from airport unless otherwise specified. CO indicates data from city office.
* Changed to airport data April 18.

Note: Table 3, Heating Degree Days, is being discontinued in the June issues of this publication, the data appearing therein being shown in the last three columns of the above Table 3A.

able 4

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
owa, north-central portion	1	Morning					$50,000	Minor	Wind, rain, and hail	Flooded lowlands, broke windows, and damaged buildings and utility lines.
aeser area, Uintah County, Utah	1	12:25 p.m.			0	0	1,200		Tornado	Funnel cloud observed moving northeastward. Tree tops sheared off. Tomatoes had to be replanted.
ale County, Texas	1	1:30 p.m.							Hail, wind, rain, and electrical	Hail damage to crops near Petersburg. Wind damaged residences and telephone lines. Area affected included Plainview, Providence, Hale Center, Petersburg, and Edmonson. Storm moved southward.
tlanta northeastern portion), De Kalb County, Ga.	1	2:00 p.m.	Short	Narrow	0	0	400	0	Whirlwind	Whirlwind or updraft wind created by powerful wind gusts over small area surrounded by buildings. Suction or updraft wind struck locally, lifted heavy aluminum boat about 60 feet in air, then dropped it on house roof and back porch; porch partially demolished and hole knocked in roof. Smaller objects picked up and blown away, and roofs of adjacent homes slightly damaged by high wind. Storm moved southwestward.
est Palm Beach (8 miles southeast of), Fla.	1	2:10 p.m.			0	0	0	0	Waterspout	Reported by aircraft pilot as being about 5 miles offshore.
iowa County, Kans.	1	2:40 p.m.							Rain, hail, wind, and electrical	Torrential rain in central Kiowa County of about 3 hours duration with amounts estimated up to 7 inches. Considerable hail accompanied rain with stones size of softballs reported southeast of Mullinville. Hail damage not widespread, but 100 percent wheat losses locally.
arrouzett, Lipscomb County, Tex.	1	4:10 p.m.	3		0	0	0	0	Tornado	Tornado not touching ground moved northeastward over town.
lapout (near), Beaver County, Okla.	1	4-5 p.m.	15	100	0	0	0	0	Tornadoes (suspected), wind, and rain	Funnel clouds moving northeastward observed.
hattuck near), Ellis County, Okla.	1	4-5 p.m.			0	0	0	0	Tornadoes (suspected), wind, and rain	2 funnels aloft observed northwest of Shattuck. Storm moved northeastward.
remer County (northeastern portion), Iowa	1	4:30 p.m.	4				10,000	Minor	Wind, rain, and hail	Damaged buildings and utility lines. Storm moving eastward cut swath through Summer and Tripoli, with most of damage in vicinity of Tripoli.
elican Key, (6 miles southwest of Everglades), Collier County, Fla.	1	4:45 p.m.	3	35	0	0	0	0	Tornado	Path over uninhabited islands and bays. Tornado moved west-northwestward.
ollis, Harmon County, Okla.	1	5:30-6 p.m.	10	400	0	2	3,000	Minor	Tornado, wind, rain, and electrical	Funnel cloud moving northeastward observed striking ground in southeastern and northeastern sections of the city.
ashita County, Okla.	1	5:30-6:30 p.m.			0	0	0	0	Tornado (suspected), wind, and rain	Funnel cloud moving northeastward, reported by newspaper, between Elk City and Sentinel.
orthern Beadle and southern Clark Counties, S. Dak.	1	6-7:00 p.m.	30				15,000	$20,000	Wind, hail, rain, and electrical	Damage confined to 9 farms. Most hail damage in Clark County. Storm moved northeastward.
ranite, Greer County, Okla.	1	6:30-7:30 p.m.	5	200	0	0	1,500	Minor	Tornado, wind, and rain	Funnel cloud moving northeastward observed striking ground.
urdette, Hand County, S.Dak.	1	7:30 p.m.			0	0	0	0	Tornado	Tornado funnel cloud moving northeastward sighted at Burdette, did not reach ground.
ydro (near), Caddo County, Okla.	1	8-9 p.m.	15	*5			1,000	50,000	Hail, wind, and rain	Some hailstones as large as golf balls. Storm moved northeastward through farming area and did very little damage to buildings.
awley (near), Jones County, Tex.	1	11:20 p.m.			0	0	0	0	Tornado	State Police reported no damage.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Kansas, south-central portion	1	Evening			0	0	0	0	Tornado	Funnels aloft sighted in 4 different areas: (1) Kingman County, 10 miles southwest of Kingman, at 7:30 p.m., 3 funnels reported. (2) Reno County, near Partridge, at 7:48 p.m., funnel moving northeastward not touching ground. (3) Reno County, east limits of Hutchinson, at 8:10 p.m., funnel moving eastward, definite roar. (4) Pratt County, between Pratt and Greensburg, at 8:36 p.m., funnel not touching ground.
Kirkland area, Childress County, Tex.	1	-			0	0			Tornado (suspected), wind, and rain	Demolished barn and damaged roof of another barn.
	1									Minor storms also reported in northeastern Kansas; and at Cheyenne, Wyo.
Black River Falls area, Jackson County, Wis.	2	5 a.m.					$24,000	$5,000	Rain and electrical	Rain of 4.55 inches at Black River Falls in approximately 6 hours. Highways #12 and #27 washed out Buildings and homes had basements flooded. Grain and hayfields laid low by runoff water. Railroad traffic held up until water receded from tracks.
Hennessey, Kingfisher County, Okla.	2	Early morning	15	* 3			60,000	2,500	Hail, wind, and rain	Hail damaged roofs and wheat. Rain washed out several bridge approaches. Storm moved eastward.
Fort Collins (northeast of), Colo.	2	1:30 p.m.	10	* 4			Light	50,000	Hail and rain	Hailstones ranged up to size of large marbles. Damage mostly to crops, especially about 2,000 acres of sugar beets. Trees, alfalfa, and garden also suffered to some extent. Storm moved eastward.
Erick (near), Beckham County, Okla.	2	3-4 p.m.			0	0	0	0	Tornado (suspected) wind, and rain	Funnel cloud moving northeastward observed on ground east of Erick.
Eunice, N. Mex.	2	3:30 p.m.	8	200			30,000		Wind, rain, and hail	Storm moved northeastward.
Gordon (north and west of) Nebr.	2	4-4:45 p.m.	12	*6			150,000	100,000	Hail	All west windows broken, wheat destroyed, and cattle bruised. Stones 3/8 to 1 inch in diameter.
Kimball County (northwestern portion), Nebr.	2	Afternoon	6	*2-3			Light	15,000	Hail	
Dorrance, Russell County, Kans.	2	Afternoon					Minor	Considerable	Hail, wind, and rain	Hail accompanying heavy rain reported to have caused considerable wheat damage.
Gage, Ellis County, Okla.	2	5-6 p.m.	60	*10			Minor	Minor	Wind	Gusts of wind to 70 m.p.h. recorded at Gage CAA station. Storm moved southeastward.
Minden (southeast of), Nebr.	2	5:30-6 p.m.	6	*1 1/2	0	0	9,000	15,000	Hail and tornado	Crop damaged by hail, other by tornado.
Great Bend (5 miles west of), Barton County, Kans.	2	8:17 p.m.			0	0	0	0	Tornado (suspected) and wind	Funnel aloft reported.
Mitchell, Cloud, and Jewell Counties, Kans.	2	9:30 p.m.			0	0	3,000	0	Tornado (suspected), wind, and rain	Considerable damage to farmstead near Asherville, Mitchell County; several reports of funnel cloud seen, along with minor wind damage near Concordia, Cloud County; residence damaged from rain and fallen tree at Burr Oak, Jewell County.
Plainview (4 miles northeast of), Nebr.	2	Evening			0	0	1,500	0	Tornado (possible)	
Barstow area, Ward County, Tex.	2	p.m.							Hail, wind, and rain	Hail as large as golf balls. 700 acres of cotton damaged; 100 window panes broken in high school building; also residential damage to windows and roofs.
Lubbock, Lubbock County, Tex.	2	-					60,000	60,000	Electrical	Lightning struck cotton warehouse causing $60,000 damage to building and $60,000 to stored cotton.
	2									Minor storms also reported in Audubon County, Iowa; in Bird Island vicinity, Minn; near Unionville, Mo.; in Rosebud and Valley Counties, Mont.; and in southeastern Howard County, Nebr.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Newhall, Los Angeles County, Calif.	3	1 p.m.	**100	100	0	0	0	0	Whirlwind	Severe localized whirlwind on clear, windless day damaged roof of building.
Spur, Dickens County, Tex.	3	3:40 p.m.	20	*2	0	0	$500,000	$50,000	Tornado hail, rain, wind, and electrical	Funnel cloud did not reach ground. Some wind damage to TV antennas and trees. Hail damaged crops and smashed practically every window with west exposure. 300 windowpanes broken in one high school; heavy damage to roofs and automobiles. Storm moved southeastward.
Iowa, western and southern portions	3	Afternoon					37,400	Minor	Electrical and wind	Damaged buildings and set farm fires.
Willow City (5 miles northwest of), Bottineau County, N. Dak.	3	Afternoon	2-3	20-50	0	0	0	0	Tornado rain, and electrical	Missed farm buildings, so no damage. Described roughly as S-shaped path, first moving northwestward, then westward, turned northwestward again and dissipated. Path through some fields clearly visible after it had passed, showing grain flattened in strip from 30 to 40 feet wide at some places. Heavy rain followed, estimated at 4 to 6 inches on some farms.
Kansas, central portion	3	Afternoon and evening			0	0			Tornadoes wind, rain, and hail	Numerous reports received of tornadoes sighted, both aloft and touching ground, through central Kansas between 3 and 11:30 p.m. Apparently little or no damage resulted from these storms listed below: (1) Funnel cloud south of Russell, Russell or Barton County, at 3:08 p.m., not touching ground. No confirmation. (2) West of Larned, Pawnee County, at 3:50 p.m., confirmed funnel aloft; 1 1/4-inch hail in Larned. (3) Pawnee Rock, Barton County, at 3:55 p.m., tornado sighted 1 mile north and just west of Pawnee Rock, went back into clouds at 4 p.m. Another report of funnel aloft 15 miles southwest of Great Bend at 4:05 p.m. (4) 4 miles northeast of Bucklin, Ford County, at 4:55 p.m., funnel aloft. (5) 6 miles west of Greensburg, Kiowa County, at 4:55 p.m., funnel moving northeast appeared about 100 feet above ground. (6) 35 miles west of Great Bend, Pawnee County, at 5:02 p.m., funnel aloft. (7) 3 to 5 miles northwest of Junction City, Geary County, at 5:17 p.m., unconfirmed funnel aloft. (8) Kingman, Kingman County, at 5:30 p.m., funnel aloft sighted, disappeared in few minutes. (9) Salina, Saline County, at 8:08 p.m., unconfirmed funnel aloft moving southeastward 2 miles west of Smoky Hill Air Base. In view about 5 minutes. (10) Unconfirmed tornado 15 miles southwest of Hutchinson Naval Air Base, Reno County, at 8:25 p.m., moving eastward on ground. (11) Unconfirmed funnel aloft 15 to 20 miles north of Wichita Veterans Hospital, Sedgwick County, at 11:30 p.m., moving northeast. (12) Unconfirmed tornado 4 miles south of Norway, Republic County. Time not established.
St. John, Stafford County, Kans.	3	4 p.m.	9	*1-2			4,200	65,000	Hail, rain, and wind	Intermittent 3-hour hail- and rainstorm caused damage over a 15-square mile area.
Glazier and Higgins, Hemphill and Lipscomb Counties, Tex.	3	5:20 p.m.			0	0	0	Minor	Tornado, rain, hail, and electrical	Tornado moving northeastward reported reaching ground, but no damage reported.
Carter, Beckham County, Okla.	3	5:30-6:30 p.m.					Minor	10,000	Hail, wind, and rain	Hail damage severe in small areas. Total area estimated at 10 square miles. Storm moved northeastward.
Seward, Stafford County, Kans.	3	6 p.m.	5	70	0	0	15,000	Minor	Tornado, wind, rain, and hail	4 farmsteads damaged, but dwellings escaped. Storm moved northeastward.
Newcastle (10 miles west of), Young County, Tex.	3	6 p.m.	3	*1	0	0			Tornado, hail, wind, rain, and electrical	Houses unroofed; windows broken; barns and cotton damaged. Storm moved southeastward.
Davidson area Tillman County, Okla.	3	6 p.m.					2,500	60,000	Hail, wind, rain, and electrical	Some unharvested wheat almost total loss after storm. Some hailstones as large as golf balls. Storm moved northeastward.
Shattuck (west of), Ellis County, Okla.	3	6-7 p.m.			0	0	1,000	Minor	Tornado (suspected), wind, rain, and hail	Farmhouse badly damaged. Storm moved northeastward.
Lake Traverse, Traverse County, Minn.	3	6:45 p.m.			7				Wind	7 persons drowned when sudden thundersquall capsized their fishing boat on Lake Traverse about 1,000 feet from Minnesota shore.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Arnett, Ellis County, Okla.	3	7-8 p.m.	15	*5			Minor	$10,000	Hail, wind, and rain	Hail heavy; some stones large. Storm moved northeastward.
Wichita Falls, Wichita County, Tex.	3	7:30 p.m.					$5,000		Wind, rain, and electrical	Wind gusts to 98 m.p.h., snapped powerlines, blew down a garage, and damaged drive-in theatre, signs, and roofs. Also additional damage to parked aircraft at Sheppard Air Base. Storm moved northeastward.
Waynoka (30 miles south of), Major County, Okla.	3	9:15 p.m.	5	200	0	0	Minor	Minor	Tornado, wind, and rain	Reports state that funnel cloud moving northeastward seen to strike ground, then lift, and then strike ground in farming area.
Kansas, north-central portions	3	Evening					5,000	50,000	Hail, wind, and rain	Numerous hail and damaging wind strips in Barton, Russell, Ellsworth, Lincoln, and Ottawa Counties. Damage mostly from hail with property wind losses estimated at $3,000. Storm occurred at 8 p.m., at Denmark, Lincoln County.
Harrold and Vernon, Wilbarger County, Tex.	3				0	0	0	0	Tornado	Funnel-like cloud observed, not touching ground. Airport manager at Vernon and telephone operator at Harrold both reported funnel cloud. Believed to be same storm; no damage reported.
Archer, Archer County, Tex.	3				0	0	0	0	Tornado	Funnel cloud reported.
Haskell, Haskell County, Tex.	3				0	0	0	0	Tornado	Funnel cloud reported.
	3									Minor storms also reported in St. Paul-Minneapolis area Minn.; near Fairfax, Mo.; in Wayne County, N.C.; and at Sharon, Woodward, and Vici, Okla.
Lincoln County (southwestern portion), Colo.	4	11:20 a.m.			0	0	0	0	Tornado, rain, hail, and dust	Disturbance over wasteland. Funnel cloud touched ground at several points, but no damage resulted. Storm moved eastward.
Milwaukee, Milwaukee County, Wis.	4	2 p.m.				1	2,000		Electrical, wind, rain, and hail	Because of lightning strikes 4 homes damaged at $100 each, motor of trolley car burned out, traffic delayed, parts of city without electricity. Woman burned around neck as lightning shattered metal chain holding medal. Storm moved eastward.
Kansas, northern portion	4	3-8 p.m.					20,000	498,000	Hail, wind, rain, and electrical	Numerous hailstorms from Wallace and Wichita Counties east-northeastward to Washington County. Strong winds accompanied hail. Heaviest crop damages occured in Thomas, Wallace, Logan, Sheridan, and Norton Counties.
Sturgeon Bay, Door County, Wis.	4	2:40 p.m.			2	3			Electrical	2 persons killed and 3 others dumped into water as lightning struck boat.
Osborne, Smith, Jewell, and Republic Counties, Kans.	4	3:20 p.m.	70	100-900	0	0	200,000	25,000	Tornadoes, wind, rain, and hail	Tornado first seen just north of Downs, Osborne County. It moved nearly due north through Dispatch community of southeastern Smith County, damaging or demolishing 10 farmsteads. It then lifted and followed a more easterly course, scattering debris for distance of 6 miles, and continued visible as it moved northeastward. It next touched down 2 miles west of Mankato, Jewell County, at 4:38 p.m., with damage path about 4 miles long through northern outskirts of Mankato. In Jewell County, 5 homes and 35 other buildings destroyed and 34 homes and 82 other structures damaged. Funnel lifted beyond Mankato, with next serious damage reported some 25 miles northeastward just east of Republic, Republic County, at approximately 6 p.m., where 1 farmstead nearly demolished and 3 others damaged. Tornado then apparently moved across Nebraska line where considerable damage reported between Chester and Hubbell, Nebr., between 6:30 and 7 p.m. A number of witnesses reported seeing several funnels and it is quite likely damage along this 70-mile broken path resulted from more than 1 funnel. Crop losses are from spotty hail which accompanied tornado. At Courtland in Republic County, hailstones measured 8 inches in circumference.
Ford, Edwards, and Pawnee Counties, Kans.	4	4 p.m.	50	100-*2	0	0	250,000	50,000	Tornadoes, hail, wind, rain, and electrical	Some indication storm began 17 miles south of Dodge City, Ford County, but first definite time fix was 20 miles east of Dodge City touching ground at 4:10 p.m. Storm moved northeastward following Arkansas River bottoms, passing east of Kinsley, Edwards County, and west of Garfield, Pawnee County, with final damage 3 miles northeast of Larned, Pawnee County, at 6 p.m. Major tornado damage occurred in Garfield area in Pawnee County. 4 homes destroyed, 6 sustained damage, and 35 other buildings destroyed. In Edwards County 1 home damaged, 1 other building destroyed,

See footnotes at end of table.

ble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
nsas (Cont'd)										and 4 damaged. No damage reported in Ford County. Damage path uneven and broken and reports indicate at least 6 or 8 separate funnels. Width of path variable and reported from 100 yards to 2 miles. One witness likened tornado cloud to huge inverted cup or bowl which let down fingerlike tentacles. If storm began 17 miles south of Dodge City, path would be 70 miles long. Crop losses given were from heavy hail which accompanied tornado. One hailstone in Kinsley area measured 12 1/2 inches in circumference.
oss Cut, rown County, Tex.	4	4:30 p.m.	2	*1	0	0	$6,000	$ 0	Tornado and rain	Tornado moving eastward demolished school gymnasium and unroofed 10 homes. Blew away granary and shed on farm east of town.
Page County, Ill.	4	Afternoon			1				Electrical	Local thunderstorm in which man killed by lightning.
linois, southwestern portion	4	Afternoon					25,000	70,000	Hail and wind	Scattered locally severe thunderstorms with hail in areas of Monroe, St. Clair, Clinton, Washington, and Perry Counties.
nsas, western and north-central portions	4	Afternoon and evening			0	1	35,000	Minor	Tornadoes, wind, rain, hail, and electrical	(1) Unconfirmed tornado 3 miles west of Sharon Springs, Wallace County, at 1:20 p.m., moved southward and dissipated with no damage. (2) 2 funnels reported about 25 miles southwest of Oakley, Logan County, at 2:30 p.m., moving northeastward. One or both funnels came to ground with path about 7 miles long. Little damage. (3) Tornado demolished farm buildings near Cora, Smith County, at 3:30 p.m. (4) Funnel aloft sighted near Quinter, Gove County, during afternoon. (5) Funnel aloft moving northeastward reported 8 miles northeast of Syracuse, Hamilton County, at 4:32 p.m. (6) Funnel aloft seen at Jamestown, Cloud County, at 5:15 p.m., moving northeastward. (7) Tornado dipped to ground about 4 miles north of Laird, Ness County, at 5:30 p.m., doing minor damage, then lifted and moved northeastward. (8) Tornado damaged 3 farmsteads 15 miles south of Wakeeney, Trego County. (9) Tornado funnel sighted about 5 miles southwest of Minneapolis, Ottawa County, at 7:35 p.m. Minor damage to trees and haystacks and 4 head of cattle killed by lightning. Heavy rain accompanied storm. (10) 2 funnels reported 10 to 15 miles southwest of Hill City, Graham County, at 7:38 p.m., moving south-southeast with 1 funnel not touching ground. (11) Funnel seen to southwest of Clifton, Clay County. Heavy hail 8 miles northwest of Clifton in Cloud and Washington Counties, causing 100 percent damage in some fields. (12) Funnels aloft reported both east and west of Abilene, Dickinson County, at dusk. (13) Terrific wind- and rainstorm at Clay Center, Clay County, at 8 p.m., caused power and telephone failures. Tile roof of high school badly damaged and windows of building blown outward. Other wind damage mostly of minor nature. 1 person injured by falling brick. (14) Scattered wind damage, possible tornadic, in Blue Rapids-Frankfort area, Marshall County, at 9 p.m.
ranklin County (southern portion), Nebr.	4	5-5:30 p.m.	4	*1 1/2			3,000	20,000	Hail	Stones 1 1/2 to 2 1/2 inches in diameter.
rederick, Tillman County, Okla.	4	5:30-6:30 p.m.	15	*5			35,000	5,000	Hail, wind, and rain	Newspaper reported hailstones as large as golf balls. Storm moved eastward.
ache area, Comanche County, Okla.	4	5:50 p.m.			0	0	0	0	Tornadoes (suspected), wind, and rain	2 funnels moving northeastward sighted aloft.
elleville, Republic County, Kans.	4	6 p.m.					10,000		Electrical, wind, rain, and hail	Barn and contents, including 210 sheep, burned.
tafford County, Kans.	4	6:30 p.m.	7	400	0	0	12,000	10,500	Tornadoes, hail, wind, and electrical	Tornado following erratic northerly course from 6 miles north of Stafford to 5 miles northeast of Hudson, destroyed 1 farmstead and damaged another, killed 30 head of cattle, pulled 2 oil derricks with their four 2-ton anchor posts out of ground, and stripped 3-inch layer off 300 foot section of good blacktop road. 10 or 12 funnels reported seen from Macksville, St. John, Stafford, and Hudson areas, but apparently only one came down to earth. Hail accompanied tornadoes with damages estimated at $10,000.
rady, McCulloch County, Tex.	4	6:30 p.m.	5	*1-2		3	100,000		Wind and rain	Destroyed Butane Company building and dance pavilion. Major damage to 8 other structures and minor damage to 36. Trees uprooted. Storm moved south-southeastward.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Hydro (near), Caddo County, Okla.	4	6:30-7:30 p.m.	15	300	0	0	$10,000	$2,500	Tornado	Tornado moving northeastward severely damaged several sets of farm buildings. A few persons reported hearing roaring noise.
Thayer County (southern portion), Nebr.	4	6:50-7:30 p.m.	60	*1-1/2	0	1	51,000	5,000	Hail and tornadoes	Tornadoes moved into State near Hubbell from Kansas; moved east-northeastward. Hailstones size of peas to eggs. 1 funnel cloud observed. Property damage by tornado, crop by hail.
Lawton, Comanche County, Okla.	4	7:15-7:45 p.m.			0	0	0	0	Tornadoes (suspected)	Funnels sighted aloft, moving northeastward.
Crescent area, Logan County, Okla.	4	7:30 p.m.			0	0	0	0	Tornado (suspected), wind, rain, and electrical	Tornadic disturbance moving northeastward reported.
Orlando (near) Logan County, Okla.	4	7:30-8 p.m.			0	0	Minor	Minor	Tornado (suspected), wind, and rain	2 funnel clouds moving northeastward observed aloft.
Reno and Rice Counties, Kans.	4	7:40 p.m.	7	200	0	0	10,000	20,000	Tornadoes, hail, rain, wind, and electrical	Tornado demolished farmstead 2 miles south of Raymond then passed on east-northeastward to north of Alden and aloft south of Lyons. Several funnels observed west of Lyons and Sterling between 7 and 8 p.m., but none did appreciable damage. Another funnel sighted an estimated 20 miles south of Sterling, Reno County, moving eastward aloft. Heavy rain and hail with some stones up to 4 inches in diameter accompanied tornadoes.
Waynoka (near), Woods County, Okla.	4	8:30 p.m.	2	100	0	0	10,000	500	Tornado, wind, rain, and hail	Reports state that funnel cloud was not observed on ground, but just a few feet above it. Several homes damaged in area. Storm moved northeastward.
Waco (20 miles west-northwest of), McLennan County, Tex.	4	8:45 p.m.			0	0	0	0	Tornado	Apparently did not reach ground.
Dempsey community, Roger Mills County, Okla.	4	9-10 p.m.					5,000	15,000	Hail, wind, and rain	Some reports state that accumulation of hail was 3 feet in isolated places. Some hail still visible 3 days after storm. Storm moved northeastward.
Fort Calhoun, Nebr.	4	9:25 p.m.	**440	Narrow	0	0	Slight	0	Tornado	Funnel observed. Trees topped, but little damage near ground.
Fairview (near), Major County, Okla.	4	10 p.m.	5	300	0	0	1,000	Minor	Tornado, wind, rain, and electrical	Tornado moving northeastward damaged a few small buildings.
Liberal, Seward County, Kans.	4	10:43 p.m.			0	0		0	Tornadoes (suspected) and wind	Reports received of funnels aloft sighted 10 miles northwest of Liberal at 10:43 p.m., and 5 miles east of Liberal at 10:52 p.m. Radar did not indicate severe storm in area and some wind damage in Liberal vicinity indicated straight-line winds.
Haskell area, Haskell County, Tex.	4								Hail	Heavy damage in Mattson community and Paint Creek section (east of Haskell). Crops and buildings damaged.
Nunn, Colo.	4						Moderate	Light	Rain	Heavy rains flooded town with several inches of water, causing light to moderate damage in property, roads, and vegetation.
	4									Minor storms also reported at Eureka, Kans.; near Versailles and Sterling, Mo.; and at Okeene, Okla.
Kansas, southeastern portion	5	1:20-1:30 a.m.			0	0	500		Tornado (suspected), wind, and rain	At 1:20 a.m., unconfirmed tornado northeast of Ft. Scott touched ground, but caused no damage. At 1:30 a.m., sharp wind at Parsons partially unroofed cold storage plant; also trees uprooted and broken. Heavy rain accompanied storm.
Lake Elmo, Washington County, Minn.	5	1:45 p.m.			0	0	0	0	Tornado (suspected)	Funnel cloud aloft moving northward observed by several persons about 1 mile north of village of Lake Elmo. Apparently funnel did not descend to earth as no damage reported.
Cloud Creek (near), Delaware County, Okla.	5	3-4 p.m.			1				Electrical, wind, and rain	Man struck and killed by lightning as he was walking toward his home.
Lampasas, Lampasas County, Tex.	5	3:15 p.m.							Wind and hail	Damaged roofs of houses and barns, and damaged a tabernacle. Severe damage to crops. Storm moved southeastward. May be same as Jarrell-Rockdale storm.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

able 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
mory (5 miles west of), Rains County, Tex.	5	3:30 p.m.	7	300-1000			$25,000	$75,000	Wind, hail, rain, and electrical	Storm moved eastward.
ugartree community, Carroll County, Mo.	5	3:30 p.m.	5	*2			1,500	100,000	Hail, wind, and electrical	Mostly damage to field crops by hail, some stones 2 inches in diameter. Storm moved northeastward.
oughton and Keweenaw Counties, Mich.	5	Afternoon					10,000		Hail, electrical, wind, and rain	Most damage caused by heavy hail, especially in town of Mohawk, where several hundred windows broken. Lightning also damaged several trees and caused other property damage.
leasant Green and Mt. Nebo, Cooper County, Mo.	5	Late afternoon					Slight	10,000	Hail and rain	Most damage to growing crops and gardens.
illiamson, Milam, and Bell Counties, Tex.	5	4 p.m.	40	*1-20			50,000	50,000	Wind, hail, rain, and electrical	Area affected includes Jarrell, Salado, Bartlett, Holland, Rockdale, Georgetown, and Granger. Hail caused extensive damage to crops in path of storm. Feed store damaged at Jarrell and both ends blown out of cotton warehouse. Roofs damaged and many trees uprooted along path. Widest path of damage from Salado to Georgetown, narrowing as it reached Rockdale. Believed to be same storm area that produced tornado at Florence. Estimate of damage includes damage around Florence. (See last page for Florence, Tex., storm.)
loha Township, Cheboygan County, Mich.	5	5 p.m.	2	1,000	0	0	200	200	Tornado (suspected), wind, rain, and electrical	Storm uprooted trees 18 inches in diameter, carried 14-foot boat 100 feet, and picked up small buildings. Storm moved northeastward.
lexia area, Limestone County, Tex.	5	5:30 p.m.							Wind, rain, hail, and electrical	Damaged roofs, awnings, trees, and transformers 6 miles south of Mexia. 2 roofs blown off in Mexia. Some crops damaged by hail.
lark area, Randolph County, Mo.	5	6:30 p.m.					Slight	Moderate	Hail, wind, and rain	Hail damage confined to 10-square mile area. Storm moved northeastward.
Brenham area, Washington County, Tex.	5	7 p.m.	4	*1				10,000	Hail, rain, and electrical	Hail (about size of ice cubes) broke glass in greenhouse and some skylights. Mill Creek area (5 miles west of Brenham) had most hail damage. Storm moved southeastward.
Encinal, La Salle County, Tex.	5	7:30 p.m.	1	*11.8	0	1	75,000	0	Tornado	Tornado moving southeastward demolished several warehouses, lumber company building, filling station, part of resturant, and several frame houses. Large tree uprooted and broken up. Powerline poles twisted off to ground.
Lufkin (3 miles northwest of), Angelina County, Tex.	5	7:50 p.m.			0	0	0	0	Tornado	Funnel cloud reported, not touching ground.
Weimar area, Colorado County, Tex.	5	10 p.m.			0	0			Tornado, wind, and hail	Tornado moving southeastward swept away barn, garage, and outbuildings; iron roofing carried 1 mile.
Eagle Lake, Lissie, and Egypt, Colorado and Wharton Counties, Tex.	5	10:30 p.m.	7 1/2	*1				75,000	Hail, wind, rain, and electrical	300 acres of corn and 300 acres of cotton destroyed. Heavy damage to about 3,000 acres of rice. Minor damage due to wind. Storm moved southeastward.
Port Lavaca, Calhoun County, Tex.	5	11:30 p.m.			0	0	3,000		Tornado (suspected) and rain	Demolished boathouses and damaged motorcruiser, 2 light planes, and several houses around Port Lavaca.
Cook County, Ill.	5						15,000		Wind	Wind accompanying thunderstorm did minor damage in Chicago area.
	5									Minor storms also reported in northern Iowa; in Sussex County, Del.; at Owatonna, Minn.; at Rosebud, Jamestown, Cliquot, and near Madison, Mo.; in New Jersey; in Pender County, N.C.; and at Schulenburg, Tex.
Barton and Dade Counties, Mo.	6	Noon	10	*3			30,000	100,000	Hail, wind, and rain	Field crops suffered bulk of damage. Storm moved eastward.
Bourbon, Crawford, and Cherokee Counties, Kans.	6	12:30-4 p.m.						100,000	Wind, hail, rain, and electrical	Afternoon thunderstorms, accompanied by high wind, hail in small strips, and heavy rain.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Joplin and vicinity, Jasper County, Mo.	6	1:30 p.m.					$ Several hundred thousand	Heavy	Hail, wind, and rain	Worst hailstorm in Joplin area since 1950. Roofs damaged, some windows and electric signs broken, and automobiles damaged. Heavy damage to wheat and oats. Storm moved southeastward.
Petoskey (near) Mich.	6	3 p.m.	1	Narrow	0	0	1,000	$2,000	Tornado (suspected), wind, rain, hail, and electrical	Storm struck just south of Petoskey. It uprooted several trees and 1,500 tomato plants, and knocked over several small buildings. Accompanied by heavy rain, hail, and lightning. Path very narrow and peopl just outside of path reported no unusual winds. Storm moved northeastward.
Lima, Ohio	6	3:40-3:55 p.m.	5	*1			25,000		Wind	Strongest winds and reported damage confined to southwest side of Lima where several factory roofs damaged by winds recorded up to 85 m.p.h.
Green Ridge (south of), Pettis County, Mo.	6	4 p.m.	7-8	*3			5,000	Considerable	Hail and rain	Storm moved eastward.
Iowa, eastern portion	6	Afternoon					10,000		Hail, wind, electrical, and rain	Damaged buildings and crops.
Lower Michigan, central and southern portions	6	Afternoon				2	50,000	10,000	Wind, electrical, and rain	Most damage caused by high winds. No severe damage reported, but many localities scattered through central and southern portions of Lower Michigan reported losses. Some damage caused by lightning.
Hume (2 miles east of), Bates County, Mo.	6	7 p.m.	3	*2·1/4				10,000	Hail and rain	Storm moved southward.
Clever area, Christian County, Mo.	6	9:30 p.m.	4	*2			Considerable	5,000	Hail, wind, and rain	Heavy fall for about 10 minutes. House siding pocked to depth of 1/8 inch. Stones 1/4 to 1 inch. Small grain damaged. Storm moved southeastward.
	6									Minor storms also reported at St. Cloud, Fla.; in Clark and Simpson Counties, Ky.; and in Martin and Faribault Counties, Minn.
Miami (10 miles north-northeast of), Fla.	7	6:20 a.m.			0	0	0	0	Waterspout	Reported by aircraft pilot as extending 2 to 3 hundred feet below cumulus cloud, but not reaching surface.
Tyrrell, Martin, Greene, Pitt, Wilson, Robeson, Scotland, Lincoln, Durham, Granville, Surry, Yadkin, Alexander, Watauga, Yancey, Columbus, Wayne, and Beaufort Counties, N.C.	7	Noon-6 p.m.					10,000	444,000	Hail	Widespread thunderstorms in connection with frontal passage produced damaging hail scattered over wide area. Most damage to tobacco in fields.
Heaters (near), W. Va.	7	12:30 p.m.					Minor	Minor	Rain	Cloudburst caused small stream to overflow its banks, gardens to be washed away, and railroad beds to be inundated.
Virginia	7	Early afternoon	30			1	100,000	75,000	Hail, wind, electrical, and rain	From Martinsville northeastward into southeastern Campbell and western Charlotte Counties. Hailstones varying in size from 1/2 to 3 inches and some wind. One person injured by lightning. Storm moved northeastward.
Lawrenceburg, Lawrence County, Tenn.	7	Afternoon					25,000	Slight	Hail and electrical	Heavy thunderstorm, accompanied by hail. More than 100 roofs destroyed or damaged. Many television sets put out of commission.
South Carolina, scattered areas	7	Afternoon				1	3,400	1,500	Wind, hail, rain, and electrical	Severe thunderstorm reported in Greenwood, Laurens, Aiken, York, Barnwell, and Georgetown Counties.
Lawrence County, Tenn.	7	Afternoon					25,000	Slight	Hail	Heavy thunderstorm accompanied by hail struck town of Lawrenceburg. More than 100 roofs destroyed or damaged. Many television sets out of commission.
Campbell County, Tenn.	7	3 p.m.	10	500			Slight	10,000	Hail	Violent thunderstorm accompanied by hail struck communities of Alder Springs, Victory, and Bethlehem. It lasted for about 25 minutes. In some spots hail drifted into piles 2 feet deep. Many tobacco beds destroyed and many acres of corn badly damaged.

See footnotes at end of table.

able 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
ayuga and Wayne Counties, N.Y.	7	3:30 p.m.						$10,000	Hail, electrical, wind, and rain	5 miles south of Wolcott, hail in 5-square mile area damaged muckland crops. Hailstones averaged 3/4 to 1 inch in diameter. Damage to other property negligible.
eaverton (11/2 miles south of), Gladwin County, Mich.	7	5:45 p.m.	4	100	0	0	$10,500	1,000	Tornado, wind, and rain	Tornado moving northwestward lifted several times. Several buildings destroyed on 1 farm and 1 farm home twisted from its foundations. Tornado funnel seen and noise like "a dozen freight trains" reported by a person in vicinity.
t. George area, Dorchester County, S.C.	7	Evening	12	*1/4			600	35,000	Hail, wind, rain, and electrical	100 acres of tobacco damaged, most of damage from hail.
ebster Springs (near), W. Va.	7				1	2	0	0	Electrical	2 men knocked unconscious and 1 man killed when lightning felled a tree a few feet from make-shift shelter in which the 3 lumbermen had sought refuge from storm. Apparently, it was the lightning and not the felled tree which caused death and injuries.
ouisville, Ky.	7				1				Electrical	Fatality result of being struck by lightning.
altimore, Md.	8	All day					10,000		Wind and rain	Mostly water and tide damage.
aco area, McLennan County, Tex.	8	2:15 a.m.			0	0	0	0	Tornado (suspected)	Funnel cloud, not reaching ground, reported southwest of Waco. Report unconfirmed.
Corn area, Washita County, Okla.	8	10:30 a.m.	25	*10			15,000	125,000	Hail, wind, rain, and electrical	Small grain completely destroyed by hail and rains in parts of this area. Storm moved southeastward.
Coleman area, Coleman County, Tex.	8	11 a.m.						5,000	Wind, dust, and rain	Blew all cotton and feed crops out; had to replant. Wind estimated at 60 m.p.h. Storm moved southwestward.
Point Au Fer Reef, St. Mary Parish, La.	8	11 a.m.-noon							Wind	Although no damage at Reef, winds reached 65 m.p.h., at lighthouse. Storm moved southeastward.
Sayre (21/2 miles southeast of), Beckham County, Okla.	8	11:30 a.m.	1	500	0	0	Minor	100,000	Tornado, rain, hail, and wind	Tornado moving northeastward observed on ground. Greater portion of damage was from unusually heavy rainstorm. Some crop damage from hail.
Hastings, Jefferson County, Okla.	8	1-1:30 p.m.	15	*5			10,000	2,500	Wind and rain	Greater portion of damage when roofs of buildings blown away. Storm moved southeastward.
Hale Center and Petersburg, Hale County, Tex.	8	1:30 p.m.			1		5,000	50,000	Wind, hail, electrical, and rain	Storm moved southeastward. Hail damage heaviest around Petersburg. Man killed by lightning while on tractor in field about 3 miles north of Hale Center. Probably same as Crosbyton storm.
Nocona area, Montague County, Tex.	8	1:50 p.m.					100,000		Wind, hail, and rain	Houses unroofed; drive-in theater damaged; wholesale company building demolished. Storm moved southward.
Marlow, Stephens County, Okla.	8	2-3 p.m.					1,000	10,000	Electrical, hail, wind, and rain	Lightning struck and damaged utility wires. Greater portion of crop damage due to hail. Storm moved southeastward.
Ranger, Eastland County, Tex.	8	3 p.m.	2	75	0	1	3,000	Heavy	Tornado, wind, hail, rain, and electrical	Trees uprooted; buildings and houses unroofed. Storm moved southeastward.
Crosbyton, Crosby County, Tex.	8	3 p.m.	8	*5			35,000	200,000	Hail, wind, rain, and electrical	About 20,000 acres of young cotton completely destroyed. Winds damaged roofs and plate-glass windows. Storm moved northeastward.
Fort Worth area, Tarrant County, Tex.	8	3 p.m.				1			Wind, rain, and electrical	Meacham Field reported gusts of 75 m.p.h.; Carter Field had gusts to 55 m.p.h. Fast-moving squall line. Man injured by barrel top carried by wind. Storm moved southeastward.
Seagraves area, Gaines County, Tex.	8	3:30 p.m.					5,000	Heavy	Wind and sand	Destroyed ball-park stadium and a partially completed building. Storm moved southwestward.
Dallas area, Dallas County, Tex.	8	3:34 p.m.					50,000		Wind, electrical, and rain	Lightning damaged home; warehouse demolished; wind 49 m.p.h., gusts to 58 m.p.h. Storm moved southeastward.
Post area, Garza County, Tex.	8	4 p.m.							Wind, dust and rain	2,000 acres of cotton destroyed by sand drifts. Plate-glass window broken; trees uprooted.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Midland, Midland County, Tex.	8	5 p.m.	**100	25		1	$5,000		Wind	Roof of hanger at Midland Airport damaged and rabbit hatches overturned. Plane damaged. Storm moved south-southwestward.
San Angelo, Tom Greene County, Tex.	8	5 p.m.					25,000	$75,000	Wind and dust	Considerable damage to roofs, windows, and crops. Gusts as high as 68 m.p.h. Storm moved southeastward.
Groesbeck, Limestone County, Tex.	8	7 p.m.					50,000	50,000	Wind and rain	Damaged roofs and uprooted trees. Storm moved southeastward.
Midland, Howard, Scurry, Martin, and Dawson Counties, Tex.	8	P.m.						150,000	Wind and dust	Crops damaged by wind and dust.
Spur area, Dickens County, Tex.	8	P.m.			0	0	Minor	Minor	Tornado, wind, hail, and rain	Damage to small buildings, roofs, and trees. Funnel apparently did not reach ground. Storm moved northeastward.
Lamesa area, Dawson County, Tex.	8				1		Minor	Minor	Electrical	Lightning killed farmer 3 miles southwest of Lamesa. Roofs damaged by wind and crops blown out.
Lake Diversion, Archer, and Baylor Counties, Tex.	8				0	0		0	Tornado and wind	Picked up boathouse cabin, carried it 200 yards and smashed it against ground.
Idalou to Heckville, Lubbock County, Tex.	8								Hail and wind	Crops severely damaged.
San Gabriel, Milam County, Tex.	8								Hail and wind	Crops severely damaged; some damage to houses.
Mineral Wells, Palo Pinto County, Tex.	8						100,000		Wind	Damaged roofs and awnings; trees uprooted.
	8									Minor storms also reported at Solomons and Hagerstown, Md.; at Wilmington, Del.; at Comanche and Oklahoma City, Okla.; and at Abilene, Lorena, Dozier, Fort Stockton, and Wichita Falls, Tex.
Point Au Fer Reef, St. Mary Parish, La.	9	9-10:30 a.m.							Wind	Winds reached 70 m.p.h., at lighthouse; no damage reported.
Illinois, northwestern portion	9	Afternoon						125,000	Hail	Severe thunderstorms caused rather widespread hail damage in DeWitt, Bureau, Henry, Woodford, and Stark Counties.
Port Arthur area, Jefferson County, Tex.	9	4 p.m.			1	2	1,500		Wind and electrical	Lightning struck 3 persons, killing 1 and injuring other 2. Trees torn; powerpoles downed. Storm moved westward.
Walnut Lake Township, Faribault County, Minn.	9	4:30 p.m.	2	*1				25,000	Hail	Fields of soybeans total loss. Corn not advanced sufficiently to be damaged to any great extent. Storm moved northeastward.
Scottsbluff, Nebr.	9					1			Wind	3 glass cases blown over onto boy causing injury.
	9									Minor storms also reported in El Paso County, Colo.; and in north-central Iowa.
Grove (near), Delaware County, Okla.	10	8:50-9:45 a.m.	5-10	Narrow	0	0	0	0	Tornado (suspected), wind, rain, and hail	Funnel aloft moving south-southwestward observed by several persons.
Pope and Conway Counties, Ark.	10	12:30 p.m.	18	*1				15,000	Hail and rain	Atkins and Blackwell northeastward to Lanty. Hail, size of marbles, covered ground. Cotton, corn, oats, and soybeans on about 1,500 acres destroyed.
Pensacola, Fla.	10	1 p.m.	**200	75			15,000		Wind, rain, and electrical	Partially unroofed municipal auditorium and warehouses. Storm moved east-southeastward.
Quitman and Pearson, Cleburne County, Ark.	10	1 p.m.	17	400				20,000	Hail and rain	Storm moved northeastward.

See footnotes at end of table.

ble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
rked Tree 3 miles ortheast f), Poinsett ounty, Ark.	10	4:15 p.m.	1/2	200-300	0	0	$300	$0	Tornado, wind, rain, and hail	Funnel cloud observed, moving eastward. Large limb blown onto truck, damaging hood and fender. Roof lifted off of pumphouse and shingles torn from house.
stland (5 iles south- est of), astland ounty, Tex.	10	4:30 p.m.	2	*1			5,000	10,000	Hail, electrical, and rain	In Mangum community stones as large as baseballs broke plate-glass windows and damaged crops. Storm moved southwestward.
ffney, herokee ounty, S. C.	10	5:30 p.m.					12,000		Electrical and rain	Residence destroyed by fire from lightning.
d Willow ounty, ebr.	10	7-9 p.m.	8	*1			Light	30,000	Hail	Stones 3/4 to 1 inch in diameter.
omtown, arnwell ounty, S.C.	10	8 p.m.					8,000	2,000	Wind, rain, hail, and electrical	
	10									Minor storms also reported at Jemison, Ala.; and in Franklin and Kennebec Counties, Maine.
lumbia, ichland ounty, S.C.	11	11:30 a.m.	**100	13	0	0	4,000	0	Tornado, wind, rain, hail, and electrical	Funnel described as spinning smoke, roaring like 4 or 5 planes, while obliterating sight of objects behind it. Signs, furniture, and debris carried 50 to 75 feet. Twister touched ground in area of steepest downslope. From damage to surrounding trees and from outward leaning of poles and aerials some distance either side of path, it would appear that width of funnel was about 200 feet at elevation of about 50 feet along path about 600 to 700 feet long. Terrain over which storm passed slopes downward from south to north a total of about 30 feet for distance of about 600 feet, but steepest slope of about 10 feet for distance of about 50 feet occurs where funnel first made its appearance on ground. Terrain mostly wooded with tall pines to left of path while to right there are smaller trees, residences, and lawns. Funnel on ground passed in backyard section between rows of residences. It was here that most of damage was found. Right sides of 2 houses to left of storm severely damaged and heavy house trailer moved 100 feet. While house trailer appeared lightly damaged on outside, interior was a shambles attesting to violence of propelling movement. Storm moved northeastward.
ertie, Chowan, artin, Edgecombe, Nash, Pitt, Wilson, Harnett, Johnston, Lee, Sampson, Cumberland, Hoke, Anson, Caswell, Durham, Granville, and Moore Counties, N. C.	11	1-7 p.m.					191,000	2,793,000	Hail and wind	Conditions similar to those on 7th brought even greater hail damage to crops and property. Although all reported as hail damage, some probably due to wind.
wen County (southeastern portion), Ind.	11	3:15 p.m.			0	0	5,000	0	Tornado (suspected)	Storm described as small twister destroyed barn and broke off several trees and electrical poles all within small area.
itt and Martin Counties, N.C.	11	3:30 p.m.	15	200	0	0	400,000	100,000	Tornado	Moved along skipping path about 15 miles long; combined length of damaged areas only about 3 miles. Greatest damage in Bethel, where auction house and several warehouses destroyed, along with numerous roofs and several small homes and other buildings. Storm moved east-northeastward from Penny Hill in Pitt County through Bethel and then Gold Point section of Martin County.
otetourt, Campbell, Chesterfield, Prince George, Clarke, and Frederick Counties, Va.	11	Afternoon and evening	2-20		0	0	20,000	40,000	Tornado (suspected), wind, hail, electrical, and rain	Thunderstorm, except that storm in Blue Ridge Community of Botetourt County at 3 p.m., apparently was at least an incipent tornado which possibly could have developed over a more favorable terrain . Loss of turkeys in this community amounted to $4,500. Damaging winds &/or hail occurred in widely separated areas in Botetourt, Campbell, Chesterfield, Prince George, Clark, and Frederick Counties. Storm moved northeastward, except eastward in Botetourt County.
arlington, Md.	11	7-8 p.m.			2				Wind	Boat capsized by rough waters.

See footnotes at end of table.

Table 4--Continued

Place	Date	Time	Length of path, miles	Width of path yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
	11									Minor storms also reported in Elfrida-McNeal areas, Ariz.; and in Baltimore, Md.
Clearfield, Cumberland, Dauphin, and Lancaster Counties, Pa.	12	A.m.-p.m.					$115,000		Winds, hail, electrical, and rain	In Clearfield County, rapid runoff from heavy rains washed away dam and boating dock on West Branch of Susquehanna River at Clearfield. Hail, accumulating to depth of several inches in some spots, caused damage to young crops, grape arbors, and fruit trees. In eastern Cumberland County and western Dauphin County, hailstones measured as large as 1 1/4 inches and caused some crop damage. Lightning set fire to furniture repair shop in Harrisburg, with damage estimated at $15,000. In Lancaster County, high winds unroofed and caused considerable other damage to dwelling. Lightning responsible for fire which destroyed grain warehouse with damage estimated at $100,000. Many acres of young corn and tobacco ruined by hail, and fields of barley and wheat flattened. Scores of birds killed during storm. Minor damage from hail, winds, and heavy rains reported in scattered areas of the State. Storm moved eastward.
Phoenix, Ariz.	12	2:10 p.m.	3/4	500			220,000		Wind, rain, hail, and electrical	Struck north side of Sky Harbor Airport. Winds estimated at 70 m.p.h., in area where 30 airplanes damaged even though tied down. Some damage also to hangers. Some hail up to 3/8 inch in diameter fell along with brief torrential rains. Peak gust of wind at Weather Bureau, about 1/2 mile south was only 33 m.p.h. Storm moved northwestward.
Wallace, Greeley, Wichita, and Kearny Counties, Kans.	12	Evening	70	*3-5	0	0	1,500	$200,000	Tornadoes, hail, wind, rain, and electrical	Severe hailstorm from 6 to 9 p.m., with path 3 to 5 miles wide from about 10 miles west of Sharon Springs across northeastern Greeley County, western and southern Wichita County into northeastern Kearny County. Hailstones not exceptionally large, but high winds, and heavy hail resulted in total wheat loss over many acres. Tornado funnel seen in southwestern part of Wallace County. Second tornado which moved over pastureland and wheat fields seen southwest of Leoti, Wichita County by several persons. Storm moved southeastward.
Durango, Colo.	12	P.m.					1,000	Light	Hail	Hailstones to 1 inch in diameter. Damage mostly to windows, roofs, and automobiles.
	12									Minor storms also reported at Wilmington, Del.; and at Mount Airy, Md.
New England, all portions	12-13	Afternoon and night			1	2	100,000		Electrical, rain, and hail	Fisherman killed by lightning at North Hero, Vt. 2 persons stunned by lightning at Warner and West Lebanon, N.H. Damage from lightning-set fires and rain flooding in several communities. Crops damaged by rain and hail.
Arizona, eastern two-thirds	13	Day			0	0	8,000	79,000	Tornadoes (suspected), hail, wind, rain, and electrical	Several funnel clouds from 1 main cloud north of White Tank Mountains about 10 a.m. Possible tornado at Queen Creek at 4:30 p.m., where $8,000 damage to buildings. Considerable hail damage to crops in Litchfield Park-Tolleson-Glendale sector.
Payson area, Ariz.	13	1 p.m.	25	*10			43,000		Wind, hail, rain, and electrical	High winds and hail (up to 3 inches in diameter) caused estimated $40,000 damage to buildings. 3 horses killed by lightning. Storm moved westward.
Cassia, Jerome, and Minidoka Counties, Idaho	13	2-4 p.m.	25	*5-8			25,000	10,000	Wind, hail, and rain	$10,000 reported crop damage was for Jerome County; no estimates of crop damage for Cassia and Minidoka Counties. Storm moved northeastward.
Lake City, Modoc County, Calif.	13	4 p.m.	6	1,000			10,000	15,000	Rain, wind, hail, and electrical	Cloudburst caused damages when tons of mud and debris washed down mountainside covering highway. Mud piled 6 to 7 feet deep and in some places alfalfa and grain fields washed away. Hail 6 to 10 inches deep in places up mountainside. Storm moved northward.
Coolidge-Casa Grande areas, Ariz.	13	4 p.m.	20	*20		2	50,000	150,000	Wind, hail, rain, and electrical	Injuries in Coolidge area as result of wind damage to buildings. Damage to crops result of hail. Storm moved north-northeastward.
Las Vegas (near), Clark County, Nev.	13	4:30-5:30 p.m.	15	*3-1/2			2,500,000	200,000	Rain and hail	Crop damage to gardens and vegetation, not field crops, mostly due to flooding but with some hail damage. Storm moved northeastward.
	13									Minor storm also reported near Hanover, Mont.
Water Valley to Calhoun City, Yalobusha and Calhoun Counties, Miss.	14	Early morning	29				40,000	10,000	Wind and hail	Severe thunderstorm uprooted trees, blew down garages and outbuildings, smashed windows, and leveled some crops. Storm moved southeastward.
Roy-Ogden area, Weber County, Utah	14	11:05 a.m.			0	0	0	0	Tornado (possible)	Reported by pilot, a CAA communicator, and a CAA ART employee as tornado. It did not reach ground. Tornado moved eastward.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
White, Carroll County, Ind.	14	3:15 p.m.	6	*2				$200,000	Hail	Hail, ankle deep over much of area of several thousand acres, riddled crops (wheat, oats, corn, and soybeans). Storm moved southward.
Post, Garza County, Tex.	14	3:55 p.m.	20	*1					Hail, wind, and rain	1,500 acres of cotton destroyed; damage to roofs of houses. Storm moved eastward.
Scipio, Pittsburg County, Okla.	14	4 p.m.			1		Minor	Minor	Electrical, wind, and rain	Man struck and killed by bolt of lightning as he worked in field, 17 miles northwest of McAlester. Storm moved southeastward.
Cheyenne and vicinity, Wyo.	14	Afternoon					$105,000	10,000	Rain and hail	Principal damage by flooded basements, washed out roads and bridges.
Lemhi County, Idaho	14	Afternoon				4			Electrical	2 men struck by lightning near Salmon, 1 requiring hospitalization; also same afternoon 2 men struck near Lemhi, both receiving burns but no permanent injuries.
Illinois, eastern portion	14	Afternoon						100,000	Hail	Hail accompanying scattered thunderstorms resulted in considerable damage to crops in counties near Indiana border from White County northward to Will County. Hail damage heaviest in White and Champaign Counties.
Knox, Lincoln, and Sagadahoc Counties, Maine	14	Afternoon and evening				2			Electrical and rain	2 West Bath residents stunned by lightning. Telephone services disrupted.
Rotan-Abilene areas, Fisher, Jones, and Taylor Counties, Tex.	14	6 p.m.	50	*20			50,000	20,000	Hail, wind, rain, and electrical	Heavy damage to buildings and cars in Rotan area. Storm moved southeastward.
Snyder, Kiowa County, Okla.	14	8-9 p.m.	15	500	0	0	30,000	15,000	Tornado (suspected), wind, hail, and rain	Farm buildings suffered greatest damage. Hail and wind damaged a few buildings and shrubs in City. Storm moved northeastward.
Brownwood area, Brown County, Tex.	14	11:15 p.m.							Wind, hail, rain, and electrical	Boat docks at Lake Brownwood heavily damaged; Lewis docks destroyed. Hail damage to roofs. Docks damaged earlier on June 4 and 6, but major damage seems to have climaxed on 14th.
Abernathy area, Hale County, Tex.	14	P.m.							Hail, wind, and rain	Spotted crop damage; from partial to complete destruction. Wind damage to garages and small buildings.
South Platte Valley, Colo.	14	P.m.	80	*60	1	5	1,000,000	Heavy	Rain and hail	Heavy rain accompanied by scattered hail over large portion of South Platte River Basin caused considerable damage to crops, especially sugar beets in Eaton-Longmont area. Runoff from Wildcat Creek drainage area washed out roadbed of Union Pacific railroad 6 miles east of Ft. Morgan, wrecking U.P. Challenger and causing death and injuries. Storm moved southeastward.
Geary, Blaine County, Okla.	14	Night					Minor	11,000	Wind, rain, hail, and electrical	Damage mostly from wind.
South Biscayne Bay, Fla.	14				1				Electrical	One of three fishermen in boat killed by lightning.
	14									Minor storms also reported near Vaughn and in Cascade County, Mont.; and at Nazareth, Tex.
Karns Spur area, Canadian County, Okla.	15	2:30-3:15 a.m.	4	*1			2,000	10,000	Wind, rain, hail, and electrical	Severe thunder and lightning. Some buildings unroofed. Wheat fields flattened by heavy rain, winds, and some hail. Storm moved southeastward.
Camas County, Idaho	15	10:30 a.m.			0	0	0	0	Tornadoes and rain	Newspaper account reported 2 small twisters in western Camas County. First funnel-shaped cloud about 300 feet in length, but did not reach ground; observed for about 10 minutes as it gyrated from perpendicular to near horizontal position. Second was smaller and disappeared in about 1 minute.
Port Sulphur (5 miles north of), Plaquemines Parish, La.	15	2 p.m.	3	330			5,000	Slight	Wind and hail	Hail up to 2 inches in diameter damaged windows and automobiles. Winds snapped telephone poles and unroofed a few houses. Storm moved northeastward.
Hugo (12 miles southwest of), Colo.	15	3:30 p.m.	10	*3			Moderate	Moderate	Wind and hail	Hailstones 1 to 2 inches in diameter. Storm moved southward.
Bannock County, Idaho	15	4-5 p.m.	7	*2-1/2				20,000	Hail and electrical	Storm moved northeastward.

See footnotes at end of table.

Table 4--Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Slapout area, Beaver County, Okla.	15	4-5 p.m.	15	*5			$3,000	$15,000	Hail, wind, rain, and electrical	Property damage mostly to roofs of buildings due to hail. Storm moved eastward.
Wichita, Scott, Finney, Gray, and Meade Counties, Kans.	15	4-7 p.m.	100				100,000	315,000	Hail, wind, rain, and electrical	Hail, damaging winds, and torrential rains from northeastern Wichita County through Scott, Finney, and Gray Counties into northeastern Meade County caused heavy wheat losses, washed out newly-planted sorghums and considerable miscellaneous damage to other properties. One of major damage areas centered around Scott City, Scott County, from 4:15 to 4:45 p.m., where 1/2 inch hail driven by winds estimated up to 80 m.p.h., and estimated 4 inches of rain in about 30 minutes brought almost total crop losses. Some hail drifts remained until 20th. Second area of severe damage occurred around Cimarron, Gray County, from 5 to 6:45 p.m., where excessive rains estimated at 5 to 10 inches washed out newly-planted fields and damaged railroads and highways. Many fields left covered with lakes of water. Basements in south part of Cimarron flooded. Storm moved southeastward.
Eastland, Eastland County, Tex.	15	5:30 p.m.	2	*2			500,000	100,000	Hail, wind, rain, and electrical	Hailstones, that averaged size of hens' eggs, with some as large as baseballs, damaged roofs, windows, and crops. Trees and telephone lines blown down. Storm moved southwestward.
Caddo-Breckenridge areas, Stephens County, Tex.	15	5:30 p.m.	15						Hail, wind and rain	90 percent of roofs in Caddo damaged.
Follett area, Lipscomb County, Tex.	15	6 p.m.	1	300			1,500	Considerable	Hail and wind	Granary destroyed, garage blown away, and small buildings destroyed. Crop damage by hail. Storm moved southwestward.
Rooks and Ellis Counties, Kans.	15	6-7 p.m.	25				1,500	100,000	Hail, rain, and wind	Damage extended from Yocemento, Ellis County, to Zurich, Rooks County. Hail caused 80 to 100 percent damage in some localities; stones up to golf-ball size and fell for an hour in some places. Heaviest losses and most intense rains occurred near Ellis-Rooks County line south of Zurich. Rainfall estimated at 3 to 8 inches in an hour caused flash floods, washed out bridges, and did much field damage.
Eastland and Comanche Counties, Tex.	15	6:30 p.m.					30,000		Wind, hail, electrical, and rain	In Gorman-Desdemona-DeLeon area. May be same as Eastland storm. Apparently advanced southeastward. Shattered plate-glass windows, unroofed sheds, and damaged awnings.
Shattuck, Ellis County, Okla.	15	6:45 p.m.	10	500	0	0	30,000	15,000	Tornadoes and hail	Considerable hail damage. 3 funnel clouds moving northeastward observed at one time.
Cheyenne, Roger Mills County, Okla.	15	7:30 p.m.					35,000	25,000	Hail, wind, rain, and electrical	Property damage mostly to roofs of buildings. Storm moved southeastward.
Arnett (near), Ellis County, Okla.	15	8 p.m.	5	500	0	0	25,000	40,000	Tornado, wind, rain, hail, and electrical	Tornado moving northeastward destroyed many farm buildings.
Kremlin, Garfield County, Okla.	15	8-9 p.m.	22-25	*2			8,000	25,000	Hail, electrical, and rain	Greater portion of damage done by hail. Storm moved southeastward.
Gilchrist area, Galveston County, Tex.	15	8:30 p.m.	1			2	10,000		Hail, wind, rain, and electrical	2 buildings unroofed. Hail damaged nearly all windows facing east; auto windshields and windows broken; neon signs damaged. Storm moved south-southwestward.
Enid, Garfield County, Okla.	15	10 p.m.	25	*10			50,000	75,000	Hail, wind, rain, and electrical	Reported as one of worst hailstorms to have occurred in this area. Storm moved southeastward.
Cresent, Logan County, Okla.	15	11 p.m.					40,000	100,000	Hail, wind, rain, and electrical	Some hailstones penetrated through roofs of buildings. Wheat damaged by hail. Storm moved eastward.
Graham area, Young County, Tex.	15	P.m.							Wind	Lumber company unroofed; house roofs damaged; radio tower destroyed.
Hastings (east of), Nebr.	15	P.m.					65,000		Electrical	Storage building in Naval Ammunition Depot struck and burned.
Brinkman and Hester, Greer County, Okla.	15	Night (p.m.)	15	*5			15,000	15,000	Hail, wind, rain, and electrical	Hail completely destroyed some unharvested wheat. Storm moved northeastward.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Martha, Blair, and Hester, Greer and Jackson Counties, Okla.	15	Night (p.m.)					$10,000	$30,000	Hail, wind, rain, and electrical	A few hailstones as large as hens' eggs observed. Storm moved eastward.
	15									Minor storms also reported in Mobile area, Ala.; at Fort Lauderdale, Fla.; at Clarkston, Westby, and Broadview, Mont.; at Spiro, Okla.; and near Gladewater and in Shepherd area, Tex.
Oklahoma City area, Oklahoma County, Okla.	15-16	11 p.m.-2 a.m.					$400,000	$600,000	Hail, rain, wind, and electrical	Several reports of hailstones as large as baseballs, some of which went through roofs of buildings. Area of greatest damage was strip about 1 mile west of Weather Bureau Airport Station. This area ranged from 1 to 4 miles wide and 8 miles long. Gust of wind of 107 m.p.h., from northwest observed at Weather Bureau Airport Station, at 12:08 a.m., on 16th. Cloudburst of 2.40 inches of rain fell in 20 minutes at airport station. Storm moved southeastward.
Claudell, Smith County, Kans.	15-16	11:45 p.m.-a.m.	5	*3				50,000	Hail and rain	Hail and 4 to 5 inches of rain fell over 15-square mile area in about 40 minutes, causing very heavy loss to wheat and alfalfa. Hail 1/4 to 3/4 inch in diameter washed into large drifts which remained unmelted following afternoon. Corn and sorghums washed out or covered with mud. Storm moved northwestward.
Purcell area, McClain County, Okla.	16	Early morning					8,000	250,000	Hail, wind, rain, and electrical	Completely destroyed all crops in parts of this area. Storm moved southeastward.
Courtney, Love County, Okla.	16	Early morning	15	*5			2,500	150,000	Hail, wind, rain, and electrical	Damage mostly to corn crop. Storm moved southeastward.
Elmore City and Maysville, Garvin County, Okla.	16	1-2 a.m.					100,000	250,000	Hail, wind, rain, and electrical	Some hailstones as large as hens' eggs. Storm moved southeastward.
Gorman area, Eastland County, Tex.	16	1:20 a.m.			0	0	0	0	Tornado	Reported by State Police, reaching ground but no damage.
Spanish Fort, Montague County, Tex.	16	2 a.m.	3	*1 1/2			4,000		Hail, wind, rain, and electrical	Cotton and corn ruined; roof of home blown off; gardens damaged. Storm moved southward.
McPherson, McPherson County, Kans.	16	11:50 a.m.			0	0	0	0	Tornado (suspected)	Report received of tornado sighted, but no confirmation obtainable.
Fayette, Sanpete County, Utah	16	1 p.m.	3	400	0	0	5,000	0	Tornadoes	2 funnels observed in this area. Some large trees uprooted and large branches twisted and torn from all trees. Sheds damaged. Metal roofing carried across valley and wrapped around trees and posts. This funnel moved northeastward. The second funnel went north of town, moving eastward, but did no damage as it hit in undeveloped area.
Hitchcock County (northern portion), Nebr.	16	2:55 p.m.-midnight	25	*4			Light	200,000	Hail	Stones size of marbles.
Panhandle-Ashtola areas, Potter, Carson, Armstrong, and Donley Counties, Tex.	16	3:30 p.m.	1/4	60-70	0	2	15,000	12,000	Tornadoes, hail, wind, rain, and electrical	7 funnels reported. Heavy damage to roofs. Picked up truck with farmer in it; barn destroyed. Storm moved northeastward, then southward, then southeastward.
Nolan-Winters-Ballinger areas, Nolan, Taylor, and Runnels Counties, Tex.	16	3:30 p.m.	45	*4	0	0	500,000	100,000	Tornado, wind, hail, rain, and electrical	Tornado destroyed barn 6 miles west of Abilene. Hail damage extensive at Winters; windows and roofs of churches, hospitals, city hall, and public schools damaged. Storm moved southeastward.
Chase County, Nebr.	16	4-4:25 p.m.	10	*6			Light	40,000	Hail	Stones 1 inch in diameter.
Matador, Motley County, Tex.	16	4:30 p.m.							Hail, wind, and rain	Hail damaged crops. Several houses and automobiles received hail damage. Some crops blown from ground. Storm moved southwestward.
Higgins (13 miles south-southwest of), Hemphill County, Tex.	16	5 p.m.	4	*3/4	0	0	8,000	0	Tornado, hail, and rain	Windmills damaged. Storm moved eastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Junction, Kimble County, Tex.	16	5 p.m.					$8,500	$10,000	Wind and rain	2 hangers wrecked; 5 light planes damaged. Storm moved southward.
Sadorus community, Champaign County, Ill.	16	Afternoon					1,000	15,000	Hail	Hail several inches in depth accumulated over very small area.
New England, coastal sections	16	Afternoon and evening				2	30,000		Electrical, rain, and hail	Thunderstorms struck several Maine and Massachusetts coastal areas. 2 men struck by lightning at Dartmouth, Mass. Several lightning fires set in scattered communities. Heavy crop damage in Rhode Isla and southeastern Massachusetts.
Big Timber, Sweet Grass County, Mont.	16	6 p.m.					10,000		Hail, rain, and electrical	Nearly 2 inches of hail covered streets immediately after storm and some had not melted by noon next day Roofs and sidings of houses damaged.
Arnett area, Ellis County, Okla.	16	6-7 p.m.			0	0	15,000	Minor	Tornado, electrical, wind, rain, and hail	Farm home west of Arnett set on fire by lightning. Storm moved northeastward.
Guymon, Texas County, Okla.	16	7-8 p.m.			0	0	Minor	$20,000	Tornado (suspected), wind, hail, and rain	Funnel cloud not observed on ground. Damage caused by wind and hail.
Enid area, Garfield County, Okla.	16	8-9 p.m.	10	*2			1,000	20,000	Hail, wind, rain, and electrical	Large acreage of uncut wheat completely destroyed. Storm moved southeastward.
Ozona area, Crockett County, Tex.	16				0	0			Tornado (suspected)	Reported to have struck 3 ranches, destroying a barn and damaging 1 room of home.
Haskell, Haskell County, Tex.	16				0	0	0	0	Tornado	Tornado observed not touching ground.
	16									Minor storms also reported at Coats, Kans.; and near McCook, Nebr.
West Palm Beach (5 miles south of), Fla.	17	11:15 a.m.			0	0	0	0	Tornadoes	2 funnel clouds from same shower cloud did not reach ground; moved eastward.
Northeastern Wayne and southern Dixon Counties, Nebr.	17	1 p.m.	10	40	0	0	4,000	Light	Tornado	Several persons observed funnel cloud moving northeastward. Most of path through open fields.
Gray, Meade, Clarke, and Comanche Counties, Kans.	17	1:30 p.m.			0	0	25,000	20,000	Tornadoes, hail, rain, and wind	A number of tornado funnels, some touching ground, sighted during early afternoon. 4 distinct funnels seen from Meade. Several damaging funnels crossed Fowler area, damaging a number of buildings and demolishing 1 farmstead. Another funnel touched down about 7 miles south of Mineola and moved eastward demolishing 1 farmstead and damaging others. Unconfirmed funnel reported 23 miles south-southeast of Garden City at 2:35 p.m. Considerable damaging hail and heavy rain accompanied tornadoes, especially south of Mineola, Clark County, and in Commanche County.
Alliance (near), Nebr.	17	2:30-4 p.m.	Short		0	0	0	0	Tornado	Funnel observed; struck nothing of value.
Perryton (15 miles east of), Ochiltree County, Tex.	17	3:03 p.m.			0	0	0	0	Tornado	Funnel cloud moving northeastward, but not reaching grou reported by highway patrol.
White Deer (8 miles southeast of), Carson County, Tex.	17	3:28 p.m.			0	0	0	0	Tornado	Tornado observed not reaching ground.
Lenoir County, N.C.	17	4 p.m.						15,000	Hail	
Smith County (northern portion), Kans.	17	4-6 p.m.					20,000	40,000	Hail, rain, and wind	Heavy rains and hail caused much field and crop damag and washed out culverts and fences. Damaging hail fell in Womer-Thornburg area.
Alva, Woods County, Okla.	17	5-6 p.m.	2-4	500	0	0	15,000	2,500	Tornado, wind, rain, and electrical	Tornado damage to farm buildings in several places. Storm moved northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Ringwood (northeast of), Major County, Okla.	17	5:48 p.m.	1	Narrow	0	0	$ Minor	$ Minor	Tornado, wind, rain, and hail	Tornado moving northeastward observed on ground by State highway patrolman.
Loyal area, Kingfisher County, Okla.	17	6-7 p.m.	15	*4-5			10,000	[illegible]	Wind, rain, hail, and electrical	Many farm buildings damaged. Storm moved southeastward.
Anthony area, Harper County, Kans.	17	6:30 p.m.			0	0	0		Tornado, hail, wind, and rain	Funnel aloft reported 6 miles northwest of Anthony. Considerable hail damage north of Anthony.
Erick, Beckham County, Okla.	17	6:30-6:45 p.m.			0	0	Minor	Minor	Tornadoes (suspected) and wind	One report states that 2 funnels observed on ranch 2 miles from city. Storm moved northeastward.
Enid, Garfield County, Okla.	17	7-7:30 p.m.	20	*4	1	7	50,000	10,000	Wind, rain, hail, and electrical	Child killed and 7 persons injured in two-car collision during heavy rain-and windstorm. Storm moved southeastward.
Wellington area, Collingsworth County, Tex.	17	7:10 p.m.	10-15	*1 1/2	0	2	500,000	0	Tornado (suspected), hail, wind, and rain	Some reports of funnel (may have been squall-line cloud). 3 homes destroyed; 6 to 10 business buildings damaged. Storm moved southeastward.
Aline area, Alfalfa County, Okla.	17	8-9 p.m.	1	100	0	0	5,000	4,000	Tornado, hail, and wind	Crop damage caused by hailstorm. Barn unroofed, trees uprooted, and fence blown away; several small buildings destroyed on farm 11 miles southeast. Storm moved northeastward.
Oklahoma City area, Oklahoma County, Okla.	17	8:30-9 p.m.	20	*3	0	0	15,000	25,000	Tornadoes (suspected), wind, rain, hail, and electrical	2 funnel clouds aloft moving northeastward.
Hobart (near), Kiowa County, Okla.	17	8:40-8:50 p.m.	1/2	50	0	0	Minor	Minor	Tornadoes, wind, rain, hail, and electrical	3 funnel clouds aloft observed moving east-northeastward. 1 cloud probably touched ground near Lugert.
Chickasha area, Grady County, Okla.	17	9-10 p.m.			0	0	25,000	30,000	Tornado (suspected), electrical, wind, rain, and hail	Funnel cloud sighted aloft north of Chickasha. Lightning struck and set fire to hay barn near village of Amber. Lightning struck numerous utility powerlines in Chickasha, and also several nearby farm buildings. Storm moved northeastward.
Ringgold, Montague County, Tex.	17								Electrical	Lightning struck barn, destroying 3,000 bales of hay, tractor, power saw, and other equipment.
	17									Minor storms also reported in Cherokee County, Iowa; and at Guthrie, Enid, Seminole, Hobart, Holdenville, and near Yukon, Okla.
Wynnewood area, Garvin County, Okla.	17-18	11 p.m.-2 a.m.	40	*2	0	0	260,000	50,000	Tornado (suspected), wind, hail, rain, and electrical	Funnel cloud reported west of Wynnewood. Greater portion of damage by wind and hail. Storm moved southeastward.
Mineral Wells (near), Palo Pinto County, Tex.	18	2 a.m.					10,000		Wind and electrical	Lightning struck drive-in theatre west of Mineral Wells.
Carey-Kirkland area, Childress County, Tex.	18	2 a.m.	8				4,000	40,000	Wind, hail, electrical, and rain	Buildings unroofed and destroyed. Storm moved southward.
Cleburne, Johnson County, Tex.	18	3:30 a.m.					150,000		Wind and rain	Plate-glass windows broken; 1 hangar destroyed; plane damaged. Storm moved southward.
Palacios (20 miles southwest of), Calhoun County, Tex.	18	7:38 a.m.			0	0	0	0	Tornadoes	3 funnels moving south-southeastward sighted, did not reach ground.
West Palm Beach, Fla.	18	11 a.m.			0	0	Minor	0	Waterspouts, wind, and rain	2 waterspouts formed under thunderstorm cloud after cloud moved offshore.
Haxtun, Phillips County, Colo.	18	12:30 p.m.	3/4	80	0	0	250,000	0	Tornado and hail	Tornado moving eastward destroyed several buildings, uprooted trees, and killed livestock.
Star Lake and Dead Lake, Ottertail County, Minn.	18	1 p.m.			0	0		0	Tornado (suspected), wind, and rain	All buildings except house demolished on farm. Water in Star and Deal Lakes drawn up to height of 40 feet. Rowboat at anchor lifted into air and blown into field. Outbuilding at boathouse carried away. Trees uprooted.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Happy, Swisher County, Tex.	18	4:07 p.m.			0	0	$0	$0	Tornadoes, wind, rain, and hail	2 funnels observed by highway patrol. No reports of damage.
Canyon (11 miles southwest of), Randall County, Tex.	18	4:10 p.m.			0	0	0	0	Tornadoes	2 funnels reported by sheriff's office. No damage reported.
Cherokee, Alfalfa County, Okla.	18	5-6 p.m.	2	100	0	0	2,500	1,000	Tornadoes (suspected), wind, rain, and hail	Funnels observed by several persons; moved northeastward.
Alva area, Woods County, Okla.	18	5-6 p.m.	15	*5			1,500	15,000	Hail	Hail heavy in some sections. Storm moved southeastward.
Bradenton, Fla.	18	6 p.m.				1			Wind, electrical, and rain	Personal injury due to lightning. TV antennas damaged, trees broken and some uprooted. Wire lines damaged by lightning.
Floyd, Hale, Crosby, and Swisher Counties, Tex.	18	7 p.m.	60	*15	0	5	265,000	1,500,000	Tornado, wind, hail, rain, and electrical	Includes Aiken, Lockney, Plainview, Petersburg, Cone, Ralls, Crosbyton, and Kress. Tornado seemed to be confined to small area around Ralls and Cone; balance of storm area was straight-line wind. Hail damage extensive to both crops and buildings. Storm moved southeastward.
Freedom (near), Woods County, Okla.	18	7-8 p.m.	3	100	0	0	25,000	1,000	Tornado, wind, rain, and hail	Tornado, moving northeastward, destroyed several farm homes and buildings.
Muleshoe (20 miles north-northeast of), Parmer County, Tex.	18	7:05 p.m.			0	0	0	0	Tornado	Pilot reported signs of tornado in open country (uncomfirmed).
Kansas, western portion	18	7:28 p.m.			1	0		0	Tornadoes (suspected), wind, rain, and electrical	Unconfirmed funnels aloft moving eastward 10 miles south of Oakley. Squall line with severe thunderstorms moved through western Kansas during evening. 5 Navy jet aircraft on flight from Dallas to Denver unable to navigate storms and made emergency landings at scattered places in western Kansas and extreme eastern Colorado with 1 pilot losing his life.
Stratford, Sherman County, Tex.	18	8 p.m.			0	0		0	Tornadoes	3 funnels reported; apparently touched ground in open country; moved northeastward.
Spur area, Dickens County, Tex.	18	8:42 p.m.			0	0	0	0	Tornado	Funnel sighted by aircraft.
Fate area, Rockwall County, Tex.	18						2,000		Electrical	Lightning destroyed a barn and contents of 8 tons of baled oats.
	18									Minor storms also reported at Roland, Iowa; in Cumberland County, N.C.; at McLoud, Woodward, and Laverne, Okla.; and at Glen Rose, Tex.
Donley and Hall Counties, Tex.	19	2 a.m.	42	*5			200,000	200,000	Wind, hail, rain, and electrical	Barns unroofed. Hail damage heavy to crops and windows. Much damage in vicinities of Clarendon, Lakeview, and Memphis. Storm moved southeastward.
Eastern Custer and northwestern Caddo Counties, Okla.	19	2-3 a.m.	25	300	0	0	1,000	5,000	Tornadoes, hail, wind, rain, and electrical	2 funnel clouds reported at Lake Clinton, 1 near Butler, 1 north of Weatherford, and 1 near Hydro. Greater portion of damage due to hail. Storm moved northeastward.
Childress-Quanah areas, Childress and Hardeman Counties, Tex.	19	4 a.m.	35	*10	3		31,000	Considerable	Wind, electrical, and rain	3 children drowned in storm cellar, when father opened door to cellar near Quanah. Storm moved southeastward.
Archer, Archer County, Tex.	19	7:30 a.m.				2			Electrical	2 men injured when struck by lightning. Residence burned to ground.
Iowa, all sections	19	All day					500,000	1,000,000	Thunderstorms with hail	Damaged crops and buildings.
Campo, Colo.	19	12:30 p.m.		*3			Moderate	25,000	Rain and hail	Hailstones to 1 inch in diameter. Windows broken and roofs and automobiles damaged. Storm moved southeastward.
Rapid City, Pennington County, S. Dak.	19	2:08 p.m.			0	0	0	0	Tornado	Tornado funnel cloud observed by meteorologist at Rapid City. No damage since cloud did not reach ground.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Rapid City, Pennington County, S.Dak.	19	2:23 p.m.			0	0	$ 0	$0	Tornado	Tornado funnel cloud observed by meteorologist at Rapid City. No damage since cloud did not reach ground.
Boyne Falls, Mich.	19	3:30 p.m.	3	50	0	0	2,500	500	Tornado (suspected), wind, rain, hail, and electrical	Roof of service station twisted loose, silo moved off its foundations, and small building destroyed. 1 person said storm "looked like smoke from stack of a train". Rain, hail, and lightning followed storm. Storm moved northeastward.
Illinois, central portion	19	Afternoon						150,000	Hail	Hail accompanying local thunderstorms caused crop damage in belt extending from Hancock and Adams Counties eastward to Menard and Logan Counties then northeastward across McLean and Livingston Counties to Will County. Hail size of hens' eggs reported in 24-square mile area near community of Bently in Hancock County.
Williamstown area, Lewis and Clark Counties, Mo.	19	4 p.m.	8-10	*1/2			1,000	36,000	Hail, wind, and rain	Hailstones near 1 inch in diameter piled up to depth of 2 to 3 feet along small stream; hail on ground for 3 days in some places. Storm moved southeastward.
Stinnett, Hutchinson County, Tex.	19	4:30 p.m.					28,000		Hail and rain	Damaged roofs, windows, and screens. Storm moved southwestward.
Campo (10 miles northwest of), Baca County, Colo.	19	5:30 p.m.			0	0	0	Light	Tornadoes and dust	Funnel dropped from cloud, appeared not to touch ground, but whirling dust plume below on ground indicated it had. A few seconds thereafter gap between dust and funnel closed by streamer. Storm moved eastward for perhaps 1/2 minute, then lifted with tail curving and dragging briefly, than all signs disappeared. 3 other small funnels occurred, reported to have touched ground.
Pattonsburg (near), Davies County, Mo.	19	5:30 p.m.	2 1/2	*2			Slight	Considerable	Hail and rain	Hail covered ground to depth of 2 inches in some places.
Stratford (10 miles north of), Sherman County, Tex.	19	5:35 p.m.			0	0			Tornado	State highway patrol reported definite path on ground.
Maxwell (near), Nebr.	19	Late afternoon					Light	Several thousand	Hail	Stones up to 2 1/2 inches in diameter.
Tahoka (20 miles northwest of), Lynn and Lubbock Counties, Tex.	19	6 p.m.	15	*3					Hail and rain	Destroyed 5,000 acres of cotton. Storm moved northeastward.
Amarillo area, Potter County, Tex.	19	6:33 p.m.	11	*3-1/2			2,100,000		Hail, rain, and electrical	Most widespread and heaviest hail damage in history of Amarillo. Damage to 6,000 dwellings and 1,500 cars. Average damage of $325 per building and $125 per car. Hail as large as baseballs. Storm moved south-southwestward.
California (north of), Moniteau County, Mo.	19	Evening					Slight	Considerable	Hail and rain	Considerable damage to gardens and some other crops.
Sudan (5 miles northwest of), Lamb County, Tex.	19								Hail and wind	2,000 acres of cotton damaged.
	19									Minor storms also reported in Grundy County, Iowa; in Osage and Miami Counties, Kans.; near Ripley, Miss.; in Springfield area and near Avalon and Kahoka, Mo.; near Stapleton, Nebr.; and at Longview, Tex.
Michigan, entire State	19-21				1	8	250,000	350,000	Wind, hail, electrical, and rain	Thunderstorms began on afternoon of 19th and ended in southeastern Lower Michigan on morning of 21st. Often accompanied by strong winds, frequent lightning, heavy rain, and occasionally hail. Storms occurred most frequently on 20th. Winds estimated at nearly 100 m.p.h., damaged an airport near Alpena on 19th. Heavy hail damage occurred in Benzie County on night of 20th, when hail of golf-ball size ruined some fruit orchards, losses estimated at $300,000. Boy killed by lightning near East Tawas on afternoon of 20th. Lightning also killed a number of livestock, damaged many buildings, and set several fires at scattered localities around State. Some flooding also reported in heavy thundershowers.
Van Zandt and Henderson Counties, Tex.	20	1 p.m.	4	*1-1/8			3,500	20,000	Wind, hail, rain, and electrical	Hail occurred in northern Henderson County about 1 p.m., and along Van Zandt-Henderson County line about 2:30 p.m. Hailstones 1 to 4 inches in diameter. Storm

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Texas (Cont'd)										moved southeastward.
Vineland, Colo.	20	2:30 p.m.					$ Light	$ Heavy	Hail and rain	Hailstones 1/2 inch in diameter.
Brooken and Cottonwood communities, McLennan County, Tex.	20	3 p.m.			0	0			Tornadoes, electrical, and rain	Lightning struck barn which burned along with contents (185 bales of clover, some cottonseed, and a large cotton trailer). 2 small tornadoes apparently did no damage, dancing through open field.
Merrill, Lincoln County, Wis.	20	3:15 p.m.	3	*1 1/8			5,000	Moderate	Hail, wind, and rain	Hail large as ice cubes stripped trees of leaves and fruit, flattened gardens and flower beds, broke several windows in homes and 200 greenhouse windows. Fallen leaves plugged storm sewers and caused water to back up, flooding some basements. Several cars slightly damaged by hail. Some hail still unmelted next morning. Storm moved westward.
Cumberland and Oxford Counties, Maine	20	Afternoon				3	1,500		Electrical, wind, rain, and hail	Lightning set fire to summer camp in Otisfield. Sailboats overturned in Portland Harbor. Widespread power failure.
Saunders County, Nebr.	20	5-6 p.m.	10-20	*3				Considerable	Hail	Damage spotted. Stones up to 1 inch in diameter.
	20									Minor storms also reported at Alquina, near Whitestown, and in Decatur County, Ind.; and in northern Iowa.
Gregory (near), Nueces County, Tex.	21	7:55 a.m.			0	0	0	0	Waterspout	Waterspout over Corpus Christi Bay about 3 miles offshore near Gregory, lasted 20 minutes.
Corpus Christi (4 1/2 miles south of), Nueces County, Tex.	21	10 a.m.			0	0	0	0	Tornado and rain	Tornado funnel, not touching ground, observed 4 1/2 miles south of Cabaniss Field.
Ingleside (10 miles north of), Aransas County, Tex.	21	10:50 a.m.			0	0			Tornado	Pilot reported funnel cloud touching ground. Postmaster unable to obtain any evidence of damage.
Columbus, Ohio	21	2:45 p.m.	7	*1	0	0	1,000		Hail	Hailstones up to size of golf balls reported from northern and eastern sections of Columbus, while smaller hail reported along path of 15 miles or more length. Damage mainly to gardens, rose and other bushes, trees, neon signs, and a few windows. Severe thunderstorms reported also over large area from Dayton to beyond Columbus.
Fort Pierce, Fla.	21	3:30 p.m.				1			Electrical	Lightning damaged wiring and light fixtures of 1 home. Personal injury, minor wound from glass shattered by lightning.
Miami (7 miles north of), Fla.	21	4 p.m.			0	0	0	0	Tornado	Tornado cloud, moving northeastward, did not reach ground.
Nash and Pender Counties, N.C.	21	4-5 p.m.						30,000	Hail	Most damage to tobacco in fields.
Kansas, east-central portion	21	Afternoon			0	0	3,000	30,000	Tornado (suspected), hail, and rain	Pilot reported tornado 10 miles north of Gypsum, Saline County, touching ground in open country and moving east-northeastward at 1:35 p.m. Damaging hail at scattered places in Geary, Wabaunsee, Lyon, and Linn Counties during afternoon and early evening, with heaviest hail reported over limited areas near Junction City and Emporia.
Osceola (near), St. Clair County, Mo.	21	Afternoon					3,500	25,000	Hail, electrical, and rain	Spotty falls of hail; stones 1/4 to 1 inch. About $2,000 lightning damage included in total. Storm moved southward.
Connecticut, Rhode Island, and western and central Massachusetts	21	Afternoon			1	4	30,000	Considerable	Electrical, rain, and hail	Tobacco crop damaged by hail size of golf balls in Connecticut. Streets and cellars flooded in Rhode Island. Lightning and flood damage in Massachusetts.
Coal Hill and North White Oak areas, Johnson County, Ark.	21	5:30 p.m.					5,000	100,000	Hail, electrical, wind, and rain	Lightning struck 1 house at Coal Hill with total loss. Worst damage in North White Oak area where hail damaged corn, tomatoes, beans, and oats.
Holbrook, Grant County, Ky.	21	P.m.			1				Electrical	Fatality result of being struck by lightning.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Sileston, Canalou, and Charter Oak, Scott County, Mo.	21	Evening					$ Slight	$ Considerable	Hail, wind, and rain	Some stones size of golf balls. 250 acres of cotton partly destroyed.
Campo and vicinity, Colo.	21		12	*2-1/2			Light	Moderate	Hail, wind, and rain	Losses mostly to sorghum, broomcorn, and grain crops; some damage to roofs. Storm moved eastward.
	21									Minor storms also reported at Murphysboro, Ill.; near Indianapolis, Ind.; at Kipling, Miss.; near Boston, Mo.; and near Stella, Nebr.
Corson, Sully, and Potter Counties, S. Dak.	21-22	Night							Hail, wind, rain, and electrical	Most damage in Corson County. Losses reported to insurance companies reached 100 claims.
New Jersey	22	4 a.m.					35,000		Electrical and wind	Violent electrical storms struck in Passaic, Bergen, Morris, and Essex Counties. 23 homes struck by lightning and damaged in area including some at Little Falls, Lyndhurst, Paramus, Buttler, Pompton Lakes, and Wanaque. Wind strong, uprooting trees in places. Much disruption of electric service. About 4 a.m., large barn near Scotch Plains struck by lightning and mostly destroyed including hay and machinery but no livestock; loss over $10,000.
Irwin (near), Barton County, Mo.	22	1 p.m.	10	*1			Slight	10,000	Hail and rain	Storm moved eastward.
Knoxville, Knox County, Tenn.	22	1:15 p.m.					20,000		Wind, rain, hail, and electrical	Severe thunderstorm struck city knocking down signs and powerlines. Lutheran church destroyed with damage estimated at $20,000.
Okmulgee, Okmulgee County, Okla.	22	1:30-2:30 p.m.	15	*5			10,000	15,000	Hail, electrical, wind, and rain	Greater portion of damage caused by hailstorm. Lightning damaged some utility lines. Storm moved southeastward.
Washington, D.C., and vicinity	22	2-4 p.m.					15,000		Wind and electrical	
Franklin, Lee, Wake, Hoke, Forsyth, and Rockingham Counties, N.C.	22	2-9 p.m.					5,000	59,800	Hail	Most damage to tobacco in fields.
New England, all sections	22	Afternoon			1	4	30,000	Considerable	Hail, wind, rain, and electrical	Hail size of golf balls in Middlesex County, Mass. Winds to 70 m.p.h., at Rutland, Vt. Widespread lightning damage in all States. Hay damaged considerably.
Wills Point (6 miles southwest of), Van Zandt County, Tex.	22	3 p.m.	3	*1-1/8			10,500	10,000	Wind, hail, rain, and electrical	Roofs, outhouses, and crops damaged by wind and hail. Hailstones 1 to 5 inches in diameter. Storm moved southeastward.
Ardmore, Carter County, Okla.	22	3-4 p.m.	15	*5			20,000	15,000	Electrical, hail, wind, and rain	Lightning damaged utility lines, while hail destroyed some crops. Storm moved southeastward.
Robstown (near), Nueces County, Tex.	22	3:15 p.m.			0	0			Tornado, wind, rain, and electrical	Roof and 1 wall blown off small shed about 1 mile from farm where hog pen destroyed, but nearby sheds unscathed. Storm moved eastward.
Ripley, Tippah County, Miss.	22	4-4:30 p.m.					2,000	8,000	Wind and hail	
Wilmington, Del.	22	4-5 p.m.			1		5,000		Wind and electrical	Miscellaneous wind and lightning damage.
Kansas, southeastern portion	22	5 p.m.					1,000	15,000	Hail, wind, and rain	Local damaging hail fell from heavy thunderstorms. Damages reported from Allen, Neosho, and Labette Counties.
Gage (near), Ellis County, Okla.	22	9 p.m.			0	0	0	Minor	Tornado (suspected), wind, rain, and hail	Funnel cloud observed on ground about 12 miles north of Gage, moving northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Hale Center to Cotton Center, Hale County, Tex.	22	10:15 p.m.	12	*4					Hail and rain	Hail damaged several thousand acres of young cotton and feed over area about 4 by 12 miles. Piles of hail that resembled snowdrifts still remained following morning. Storm moved southwestward.
Calvert area, Robertson County, Tex.	22	P.m.							Wind, hail, and rain	In Black Bridge community (west of Calvert) to Calvert, high winds and hail caused considerable property and crop damage.
Isle Royale, Lake Superior, Mich.	22				2				"Seiche" wave	Believed to be "Seiche" wave; occurred on inland lake on Isle Royale. 2 men drowned when sudden, huge wave upset their small boat. Lake calm before and after wave occurred. Third man rescued after 2 hours in water.
Houston, Chickasaw County, Miss.	22						$5,000	$10,000	Wind, hail, and rain	
Quitman and Panola Counties, Miss.	22		30		0	0	35,000	15,000	Tornado (suspected)	4 homes and 1 building destroyed and 14 others damaged. Tornado moved northeastward.
	22									Minor storms also reported at Huntsville, Ala.; at Tampa, Fla.; and at Cambridge, Md.
Flathead County, Mont.	22-23	7:45 p.m.-a.m.	50-60				500	10,000	Wind, rain, hail, and electrical	In vicinity of Kalispell storm covered area from Thompson Lakes to near West Glacier. About 2,000,000 board feet of timber blown down by wind, but most of it can be salvaged. Storm moved eastward.
Custer County (northern portion), Nebr.	23	6 a.m.	7	*1			Light	5,000	Hail	Stones size of marbles to golf balls.
West of Loup City to west of Arcadia, Nebr.	23	11 a.m.-12:20 p.m.	30	*2				25,000	Hail	Damage spotted. Stones small, but considerable wheat shattered.
Whitfield County (northern portion), Ga.	23	1 p.m.					1,000	5,000	Hail and wind	Severe thunderstorm (damage mostly from hail, but partially from wind). High wind damaged several house roofs and small buildings, 240 chickens lost. Hail, ranging in size from small marbles to guinea eggs, overspread much of northern Whitfield County, north of Cohutta, causing substantial losses to cotton, corn, alfalfa, and grapes. Storm moved eastward.
Varner (near), Lincoln County, Ark.	23	1 p.m.	Short	Narrow	0	0	2,000	0	Tornado (suspected), rain, and electrical	Barn unroofed, resulting in damage to 1,000 bushels of oats by rain that followed.
Pamlico, Bladen, Duplin, Onslow, Pender, Bertie, Edgecombe, Nash, Franklin, Johnston, Lee, Robeson, Sampson, Wake, Warren, Hoke, Richmond, Scotland, Polk, Rockingham, and Alamance Counties, N.C.	23	2-5 p.m.					28,900	1,617,100	Hail and rain	Frontal passage again caused widespread thunderstorms with hail and some wind damage. Three-fourths of crop damage to tobacco in fields.
Elbert County, Ga.	23	2:30-3:10 p.m.	15	*1 1/2			2,000	25,000	Wind, hail, rain, and electrical	Path of storms extended from near Nickville (6 miles west of Elberton) through Centerville (5 miles north-northwest of Elberton) and beyond Rock Branch community (9 miles north-northeast Elberton). In Nickville and Centerville areas, a few house roofs damaged and some trees and utility lines blown down, while considerable damage, mostly from heavy hail, occurred over about 2-square mile area near Rock Springs community. Crops heavily damaged from hail, and high winds caused moderate to heavy damages to homes, barns, and other buildings. Large acreages of cotton, corn, grain, watermelons, etc., badly beaten, leaving total losses in several fields. High winds heavily damaged or blew over more than a dozen barns, numerous house roofs and other buildings damaged, and considerable grain stored in barns blown away or ruined by heavy rains. Storm moved northeastward.
Lowndes County (northern portion), Miss.	23	3 p.m.					5,000	10,000	Wind and hail	

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Anderson area, Anderson County, S.C.	23	3-4 p.m.	6-10	*3			$3,000	$50,000	Hail, wind, rain, and electrical	In Bowen-Hebron, Good Hope, and Generostee communities about 12 miles southwest of Anderson, S.C., hailstorm did bulk of damage to crops and houses in midafternoon, preceded and followed by torrential rains which continued during night. Hail lasted about 15 to 20 minutes, in most sections, and stones as large as hens' eggs fell throughout the 3 communities. Banks of ice 6 to 8 inches deep remained in deep grass and along banks and buildings as long as 3 hours after storm. Storm moved northeastward.
New Hope area, Florence County, S.C.	23	3:30 p.m.	2 1/2	*1				150,000	Hail, wind, rain, and electrical	Major damage to tobacco. Storm moved southeastward.
Pamplico eastward to Pee Dee River, Florence County, S.C.	23	4 p.m.	2	*1				40,000	Hail, wind, rain, and electrical	Major damage to tobacco. Storm moved southeastward.
Spartanburg (near), Spartanburg County, S.C.	23	4 p.m.					100,000		Electrical, rain, and hail	Lightning struck lumber-treating plant.
Anderson, Anderson County, S.C.	23	4 p.m.	**300	100	0	0	3,000		Tornado, wind, rain, and hail	Tornado that developed during thunderstorm was described as rapidly moving revolving funnel. It snaked down out of black cloud, making contact with ground, knocked down a barn and garage, uprooted several trees, then lifted after 200 or 300 yards. Tornado moved northeastward.
Hennessey, Kingfisher County, Okla.	23	4:30 p.m.	25	*10			Minor	305,000	Hail, rain, wind, and electrical	Large hailstones reported. Up to 12 inches of rain fell in small areas. Storm moved northeastward.
Hoskins (near), Nebr.	23	Afternoon			1				Electrical	Farmer on tractor struck and killed.
Pittsylvania, Prince George, and Charles City Counties, Va.	23	Afternoon	2-12	*1/4-1			Considerable	25,000	Hail, wind, and rain	Considerable property damage by wind. Storm moved southeastward in Pittsylvania County, northward in Prince George County, and north-northwestward in Charles City County. Severe hail in 3 counties.
Levelland, Hockley County, Tex.	23	11:25 p.m.			0	0			Tornado	Tornado funnel, not touching ground, reported.
Laurel, Md.	23	P.m.					10,000		Electrical	Lightning set fire to building.
East of Columbia River, Wash.	23	Evening		*100		2	250,000	25,000	Wind and dust	High wind and duststorm associated with rapidly moving frontal system across eastern part of State. Wind speeds ranging from 50 to 70 m.p.h., caused severe duststorm in Columbia Basin, making it necessary to close several highways to travel for a few hours and caused small airplane to crash near Sprague, injuring 2 persons. 1 warehouse wrecked in Moses Lake area, and trees and power and communication lines damaged over wide area. Storm moved eastward.
	23									Minor storms also reported at Hartselle and near Moulton, Ala.; at Paragould, Almyra, and in Benton County, Ark.; at Jacksonville, Fla.; at Atlanta and Macon, Ga.; at Council Bluffs, Iowa; near Sikes, La.; near Charleston, Mo.; at Stevensville, Mont.; near Marquette and York, in eastern Seward County, and in northwestern Pawnee County, Nebr.; at Charleston, S.C.; and at Kingsport, Tenn.
Lancaster County (southern and western portions), Nebr.	23-24	9:30 p.m.-2:30 a.m.	8	*2-3			2,500	255,000	Hail and electrical	Stones 1 inch in diameter. Property damage by lightning, crop by hail.
New Jersey	23-24	P.m. 23d-p.m. 24th					25,000	25,000	Hail and electrical	Lightning struck at 22 places in Union County including buildings in Westfield, Cranford, Scotch Plains, Linden, and Elizabeth, causing 5 fires. Same series of storms covered Bergen and Passaic Counties. In Bergen County, 14 homes reported struck by lightning and damaged or destroyed. In Passaic County on 24th, a little before 8 p.m., heavy hail fell for about 15 minutes at Paterson, Clifton, and Passaic during thunderstorms. Very damaging to truck crops in vicinity of Clifton. County Agricultural Agent estimated damage to crops in Passaic County to be $25,000. Such crops as cabbage and head lettuce almost completely ruined over large acreage. Damage to property mostly by lightning.
Lackawanna County, Pa.	24	A.m.-p.m.						25,000	Hail	Hail caused extensive damage to blueberry crop. Storm moved eastward.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Kansas, northeastern portion	24	Early morning			0	0	$10,000		Tornado (suspected), wind, hail, electrical, and rain	Scattered damage, mostly of minor nature, reported from many sections beginning about midnight. Damage west of Horton, Brown County, occurring about midnight thought caused by tornado. Scattered hail in Marshall and Brown Counties. At least 2 barns and 1 house burned after lightning strikes.
Gage County (northeastern portion), Nebr.	24	Before dawn	8	*6			Light	$50,000	Hail	Stones size of marbles.
Pawnee City to 4 miles west, Nebr.	24	4-6 a.m.	5-6	*3				$20,000	Hail	Stones 1/2 inch in diameter.
Dodge County (northwestern portion), Nebr.	24	6:30-7 a.m.	15	*8				5,000	Hail	Stones 1/2 to 3/4 inch in diameter.
Connecticut, Massachusetts, and southern Vermont	24	Afternoon				3	3,000	400	Electrical, rain, and hail	Hail size of ping-pong balls at Lenox, Mass.
Pike County, Ind.	24	Afternoon					15,000		Wind	Several trees and 2 or 3 barns blown over.
Humboldt (near), Nebr.	24	Late afternoon	5	*1 1/4			Light	25,000	Hail	Stones 1/4 to 1/2 inch in diameter.
Huntsville area, Randolph County, Mo.	24	9 p.m.	15				19,000	45,000	Wind, rain, and hail	Barn flattened; another barn, church, and automobiles damaged; trees uprooted. Storm moved south-southeastward.
Kentucky, western portion	24	P.m.					10,000	50,000	Wind, rain, hail, and electrical	Damage extensive to tobacco and corn. Greatest damage to crops by hail. Trees and TV antennas toppled, several barns unroofed, streets and roads flooded, windows smashed, and utility and communications services disrupted.
Harmony community, Floyd County, Tex.	24	P.m.							Hail, rain, and electrical	Hail, size of marbles, damaged cotton as much as 50 percent, but area not widespread.
Pikes Peak, Colo.	24						Moderate		Rain and hail	Heavy rains and hail on north slope of Pikes Peak damaged highway and temporarily halted traffic.
	24									Minor storms also reported at Oatsville, Ind.; Missouri Valley, Iowa; in Russell County, Ky.; near Montgomery City and at Independence, Mo.; and near Canyon Ferry Dam, Mont.
Kansas, eastern portion	25	Early a.m.					10,000		Electrical	Lightning strikes caused numerous minor fires throughout eastern Kansas, and destroyed 1 storage building and contents of Sunflower Ordnance Works near De Soto. Damage from latter fire not estimated.
Fort Pierce (5 miles west of), Fla.	25	3 p.m.			0	0		0	Tornado (suspected) and thunderstorm	Trees and TV antennas broken, and lawn furniture scattered in path along highway.
Perquimans County, N.C.	25	3:45 p.m.			0	2	10,000		Tornado (possible)	2-story farm home near Hertford overturned and demolished. 2 women inside only superficially hurt.
Chugwater and Wheatland areas, Wyo.	25	5-7 p.m.	50				75,000	220,000	Rain, wind, hail, and electrical	About 13 1/2 miles from Chugwater, where road blocked, there was probably 4 to 7 inches of rain in 2 hours. Flood damage to C & S tracks severe; about 1,500 feet of track directly upstream from Chugwater washed badly. Damage to county roads, crops, and fences considerable. Considerable hail with storm. Damage in Wheatland area, consisting of hail damage to crops, estimated at $200,000. Storm moved northeastward.
Knox County, Tenn.	25	5:15 p.m.	5	1,000			10,000	Slight	Thunderstorm	Severe thunderstorm struck Bearden community. Many advertising signs destroyed, several trees blown down, and several roofs damaged.
	25									Minor storms also reported at Kenwood Beach, Md.; near Kidder, Mo.; in Wayne County, N.C.; and in Kershaw and Chesterfield Counties, S.C.
Johnson and Sheridan Counties, Wyo.	25-27						70,000	5,000	Rain, hail, wind, and electrical	Major damage from torrential rains in Rock Creek Valley north of Buffalo, and on Prairie Dog Creek south and east of Sheridan. Hail 6 inches deep in some places.
Moccasin and Brooks areas, Fergus County, Mont.	26	1:15 p.m.	6	*2				50,000	Rain, hail, and electrical	Storm moved southeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Conrad (north of), Pondera County, Mont.	26	2 p.m.	30	*2 4				$50,000	Hail, wind, rain, and electrical	Storm moved eastward.
From Spokane eastward, Wash.	26	Afternoon				1			Electrical, hail, and rain	1 person injured by lightning in Spokane. Large number of electrical power failures in Spokane. Hail damage light. Storm moved northeastward.
Duval County, Fla.	26	3-6 p.m.							Wind, rain, and electrical	Wind up to 58 m.p.h., in gusts at Naval Air Station. Some damage to wire lines by wind and lightning. A few trees broken by wind. Storm moved south-southeastward.
Walters Ferry Bridge (near), Owyhee County, Idaho	26	4-5 p.m.						15,000	Rain	Much of damage from erosion, with sand and silt filling irrigation ditches and entering several homes. 25 to 30 tons of hay damaged, plus several crops of clover and corn.
Willard (near), Fallon County, Mont.	26	5 p.m.	5	*1				10,000	Hail, wind, rain, and electrical	Storm moved northeastward.
Meridian, Lauderdale County, Miss.	26	5-6 p.m.					$8,000	2,000	Wind, rain, and electrical	Storm moved eastward.
Baker, Fallon County, Mont.	26	6:15 p.m.	20	*8			Heavy		Rain	Storm moved northwestward. Telephone services interrupted when cable washed out. About 10 families evacuated from city homes, more from rural areas. Rain measured 4.92 inches in city.
Bennett area, Colo.	26	6:45-10:15 p.m.	10-12	*15-20			Heavy	Light	Rain, hail and electrical	Torrential downpour, water accumulated to depth of 18 inches. Greatest damage to roads and bridges. Hail losses light. Storm moved northeastward.
Morrill, Nebr.	26	11 p.m.		Narrow	0	0	15,000	0	Tornado	Damage very freakish. Window blown from house and laid unbroken on nearby lawn.
Weld County, Colo.	26	P.m.	25	*20	0	0	Heavy	Heavy	Rain, hail, tornado (suspected), wind, and electrical	Heavy rains of 3 to 6 inches, hail with stones ranging to 3 inches in diameter, and several twisters in Briggsdale-Cornish-Osgood area severely damaged crops, washed out roads and bridges, killed small livestock, and destroyed several farm buildings. Losses probably exceeded $100,000.
Action (north of), Yellowstone County, Mont.	26		8-10	1,200-1,500				10,000	Hail, rain, and electrical	
Floydada (12 miles east of), Floyd County, Tex.	26								Hail, rain, and electrical	Hail, some as large as hens' eggs, wiped out all crops over limited area in narrow strip.
	26									Minor storms also reported at Selma, Bessemer, Natchez, in Montgomery area, at Opelika, and near Lincoln, Ala.; in Dooley County, Ga.; at University and Oxford, Miss.; at Cyclone and near Joplin, Mo.; and at Harlowton, Mont.
Sumter County, Ga.	26-27	10:35 p.m.-1:25 a.m.					10,000	500	Electrical	Considerable damage at scattered points in Sumter County. Lightning struck home at 10:35 p.m., causing this and 3 other homes to be destroyed by fire. In extreme southern part of County, 4 miles southwest of Leslie, lightning struck small home which was destroyed by fire ignited by lightning, and nearby crib of hay also destroyed by fire. Worst point of lightning damage was 2 miles south of Americus, where large barn struck by lightning and burned, resulting in death of 5 mules and destruction of considerable farm equipment and feedstuff.
North Platte Valley, Wyo. and Nebr.	26-27		50		0	0	400,000	1,000,000	Tornadoes, rain, wind, hail, and electrical	Tornado 7 miles southwest of Torrington at 7 p.m., on 26th; 2 homes and farm buildings damaged. Also on 26th, tornado 4 miles west of Whalen with no damage reported. Flood from Cottonwood Canyon destroyed portion of bridge 5 miles west of Fort Laramie. Highway traffic rerouted for 3 days. 150 feet of railroad embankment destroyed and flood washed out Interstate Canal. Temporary repairs to canal will be about $85,000. Damages to county and other bridges in Platte and Goshen Counties estimated at $35,000. Fort Laramie inundated to depths of 5 feet by overflow from Interstate Canal. Runoff from hills north of Torrington 2 to 3 feet deep in town at height of storm on 26th; many basements flooded. Storm runoff and hail caused considerable damage to crops in upper Cherry Creek Basin, south of Lingle. Hail, wind, and flooding caused widespread damage in and around Veteran, Lingle, Fort Laramie, and Torrington to all crops. Storm moved eastward.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Gage County (northeastern portion), Nebr.	27	10 a.m.	7	*1			$ 500	$50,000	Hail	Stones 1 inch in diameter.
Chugwater (14 miles northwest of), Wyo.	27	1 p.m.			0	3	5,000		Tornado and wind	Tornado moving northeastward demolished 1 set of farm buildings. Tornado apparently touched ground only in small area.
Faulkner and White Counties, Ark.	27	Afternoon				1	1,400		Electrical and rain	1 person near Conway knocked unconscious and 14 head of cattle killed by lightning near Cabot.
Morrill (west of), Nebr.	27	Afternoon		Narrow	0	0	Several thousands	Little	Tornado	1 set of farm buildings destroyed and other sets damaged. Storm moved southward into sparsely settled country.
Panhandle (near), Carson County, Tex.	27	4 p.m.			1				Electrical and rain	Lightning struck man while he was operating tractor in field. Storm moved southeastward.
Goins community, McClain County, Okla.	27	4 p.m.	3	*2			2,000	10,000	Hail, wind, rain, and electrical	Some hailstones as large as golf balls. Storm moved southwestward.
Hydro, Caddo County, Okla.	27	4-5 p.m.	15	200	0	0	10,000	1,000	Tornadoes, electrical, wind, rain, and hail	4 separate funnel clouds observed by residents of Hydro. Several farm buildings demolished. Lightning damaged utility lines. Storm moved southwestward.
Gage (near), Ellis County, Okla.	27	4-5 p.m.			0	0	0	0	Tornado (suspected), wind, and rain	Funnel aloft observed moving northeastward.
Colorado, northeastern portion	27	4-8 p.m.	45	*20	0	0	5,000	50,000	Tornadoes (suspected), wind, rain, and hail	Storm extended from Greeley area to near Colorado-Nebraska line. Hailstones ranged to size of hens' eggs and caused most of crop damage. Several twisters within area damaged trees and farm buildings. Storm moved northeastward.
Mitchell and Scottsbluff (south of), Nebr.	27	4:30 p.m.	20	Narrow	2	20	450,000	Light	Tornado and hail	A few stones up to size of baseballs. Storm moved southeastward into sparsely settled country.
Lodge Grass (6 miles south of), Big Horn County, Mont.	27	5 p.m.	10	*1				25,000	Hail, wind, rain, and electrical	Storm moved northeastward.
Germantown, Columbia County, N.Y.	27	5:30 p.m.	5	*2				100,000	Hail, electrical, wind, and rain	Hailstones ranging from 1/8 to 1/2 inch in diameter caused damage, principally to cherries, estimated at $100,000. Injury to other crops and property negligible.
Geary, Blaine County, Okla.	27	8-9 p.m.	15	*5			1,500	8,000	Hail, wind, rain, and electrical	Some hailstones measured 8 inches in circumference. Storm moved southeastward.
Canadian, Hemphill County, Tex.	27	8 p.m.			1				Electrical and rain	Lightning struck woman. Thunderstorm with very heavy rain (7 inches in 4 hours). Storm moved southwestward.
Spearsville (7 miles northwest of), Union Parish, La.	27				0	0	0	0	Tornado	Tornado touched ground briefly, then lifted without damage.
	27									Minor storms also reported at Arkadelphia and Gurdon, Ark.; in Connecticut and Massachusetts; at Tampa, Kans.; near Slidell, La.; near Webb City, Mo.; near Lindsay, Mont.; and near Glenvil, Nebr.
Titusville, Fla.	28	1-2 p.m.					250,000		Electrical and rain	Citrus packing plant destroyed by fire believed set by lightning.
Connecticut, Rhode Island, and Massachusetts	28	2-4 p.m.			1	2	Slight	Moderate	Hail, rain, and electrical	8 acres of young corn stripped by hail near Columbia, Conn. Tobacco and corn received slight damage near Springfield, Mass.
Woodland, Yolo County, Calif.	28	4:30 p.m.		15	0	0	1,000		Whirlwind	Severe local whirlwind on cloudless, windless day. Damage to barns and sheds on 1 farm; 1 cow injured. Storm moved northeastward.
Littlefield (near), Hockley County, Tex.	28	5 p.m.	13	*3					Hail and rain	Hail, size of marbles, damaged about 2,500 acres of young cotton and feed. Storm moved northeastward.

See footnotes at end of table.

Table 4–Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Aberdeen (west of), Brown County, S. Dak.	28	5:25 p.m.			0	0	$ 0	$ 0	Tornado	2 small funnel formations first seen west of Aberdeen, moving north-northeastward. These rapidly combined into 1 funnel cloud, but did not reach ground. Funnel cloud remained intact for only several minutes.
Kansas	28	Afternoon and evening			1	3			Electrical and rain	Man killed and boy injured at Wichita when struck by tree felled by lightning. Man on tractor injured by lightning near Sharon Springs. Man injured by lightning bolt at Plainville.
Ferney, Brown County, S. Dak.	28	6:30 p.m.	3 1/2	50	0	0	50,000		Tornado and wind	Funnel formed 3/4 mile west of Ferney, circled across west part of town, then continued eastward for 2 1/2 miles. Damage confined to 1 farm and west part of Ferney which included minor damage to 2 barns, silo, 2 homes, 1 elevator, 6 buildings, many small sheds, trees, etc. Storm moved eastward.
Northern Stevens and southern Grant Counties, Minn.	28	8 p.m.	20	*5			Slight	100,000	Hail, rain, and electrical	Hailstones size of golf balls stripped and downed fields of corn, soybeans, wheat, and barley. Many fields total loss, others 40 to 60 percent loss. Property damage light, mostly broken windows in homes. Storm moved east-northeastward.
Anton (near), Hockley County, Tex.	28	9 p.m.			0	0			Tornado	Hockley County Sheriff and members of Highway Patrol quoted as seeing small tornado in clouds. Funnel did not touch ground and soon dissipated.
Johnson City (near) to Appleton City (south of), St. Clair County, Mo.	28	Evening				1	Slight	Considerable	Hail	Man struck by lightning, but not seriously injured. Grain damaged.
Christina (near), Fergus County, Mont.	28	Evening			1				Electrical	Newspaper accounts indicate death by lightning.
Arco, Lincoln County, Minn.	28				1				Electrical	Woman burned to death in trailer house, set afire by lightning.
	28									Minor storms also reported at Homestead, Fla.; at Ames, Iowa; at Joplin and near Chula, Mo.; and at Butte, Mont.
Perkins to Marshall Counties, S. Dak.	28-29	Night							Hail, wind, rain, and electrical	Hail claim reports show Brown, Day, and Marshall Counties with over 500 claims receiving most damage. Hailstones at Cresbard, Faulk County, reached 5 inches in diameter. Considerable damage to small grains and corn in tri-county area.
Reactor Testing Station (near), Idaho	29	1:42 p.m.			0	0	0	0	Tornado	Funnel cloud observed extending halfway from cloud to ground about 4 miles west of Reactor Testing Station. Disintergrated in about 3 minutes.
Brockton (11 miles north of), Roosevelt County, Mont.	29	3:30 p.m.	60	*3				90,000	Hail, wind, rain, and electrical	Damage $80,000 by hail; $10,000 by wind. Storm moved southeastward.
Illinois, west-central portion	29	Afternoon						75,000	Hail	Hail accompanying local thunderstorms caused crop damage in Pike, Scott, Morgan, Cass, and Menard Counties.
Sidney (near), Richland County, Mont.	29	5:10 p.m.			0	0	0	0	Tornado	Funnel cloud did not reach ground; moved eastward.
Miami (90 miles southeast of), Fla.	29	6:47 p.m.			0	0	0	0	Waterspout	Reported by aircraft pilot as 10 miles south of South Riding Rock.
Buford (near), Williams County, N. Dak.	29	8:15 p.m.			0	0	0	0	Tornado	Funnel cloud touched ground briefly.
	29									Minor storms also reported at St. Petersburg, Fla.; at Centerville, Iowa; at Atchison, Kans.; at Monroe City, Mo.; and near Oswego, Mont.
Plant City and Clearwater areas, Fla.	30	3-5 p.m.							Electrical and rain	Guest house at lake near Plant City destroyed and appliances in home in Plant City damaged as result of lightning strikes. Building in Clearwater struck by lightning and damaged slightly.
Manvel, Grand Forks County, N. Dak.	30	3:30 p.m.	4	75	0	0	5,000	3,000	Tornado (suspected) and rain	Tornado moved northeastward.
East Grand Forks, Polk County, Minn.	30	3:50 p.m.			0	8	10,000		Tornado	Farm home demolished, but barn and machine shed nearby virtually untouched. Trees uprooted. Family of 8 persons injured, 1 seriously. Funnel-shaped cloud observed. Storm moved southeastward.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Fargo (south of), Cass County, N.Dak.	30	4 p.m.			0	0		$2,000	Tornado	Damage confined to field crops in small areas.
Wilken and Clay Counties, Minn.	30	4:15 p.m.			0	0	$ 0	Slight	Tornado and wind	Funnel-shaped cloud observed near Wolverton, Wilkin County, moving northeastward to near Baker, Clay County. Funnel cloud dipped to earth several times. Some damage to growing crops on several farms; no farm buildings struck.
Dunlap (1 1/2 miles southwest of), Elkhart County, Ind.	30	4:15 p.m.			0	0	1,500	0	Tornado (suspected) or wind	Half of dwelling roof taken off, barn doors wrenched from hinges, and trees blown over.
Kansas, central portion	30	Evening			1	1	5,000	250,000	Tornadoes, wind, electrical, hail, and rain	Severe thunderstorms from Hodgeman County northeastward to Republic and Marshall Counties attended by locally heavy hail, torrential rain, damaging winds, and tornadoes. Heaviest rain and most damaging hail in western Ellsworth, Barton, and Rush Counties. Rainfall north of Albert, Barton County, unofficially estimated at 10 inches and 3-to 6-inch amounts fell at a number of other places in 3-hour period. Newly-planted fields washed out, roads flooded, and several bridges made impassable. Major damages reported are: (1) Several farm buildings northeast of Blue Rapids, Marshall County, damaged by wind between 3 and 4 p.m. (2) Man killed and another injured by lightning at Republic, Republic County, at 5 p.m. (3) Tornado cloud sighted north of Russell and at 5:28 p.m., appeared to be breaking up 14 miles north of Russell, Russell County. (4) Tornado reported sighted touching ground 12 miles south-southwest of Jetmore, Hodgeman County, at 6:45 p.m. Little if any movement. (5) Windstorm damaged hanger and 2 aircraft at Beloit Airport, Mitchell County, during evening. Minor damage in city. (6) Tornado touched down 1 1/2 miles south of Concordia, Cloud County, at 6:40 p.m., moved along ground toward east-northeast for 1 mile then lifted doing minor damage to small buildings and trees. 2 funnels next seen southwest of Clyde, Cloud County, and some damage resulted. At 7:15 p.m., funnel seen from Clifton, Washington County, and several small buildings badly damaged 1 1/2 miles west of that town. (7) About 10 sections of wheatland northwest of Hargrave, Rush County, severely damaged during evening by hail. Loss estimated at $50,000. (8) Hail between 9:15 and 9:45 p.m., in strip 20 miles long and 3 miles wide from Great Bend, Barton County, northwestward caused an estimated $200,000 crop loss. Hailstones ranged up to golf-ball size.
Thayer County (southern half), Nebr.	30	Afternoon					Little	15,000	Hail	Stones small, but considerable wheat shattered.
Jefferson County, Nebr.	30	5-10 p.m.			0	0	Light	10,000	Hail and tornado	Considerable wheat shattered. Funnel cloud observed at Fairbury at 6:15 p.m., but did not reach ground.
	30									Minor storms also reported at Tallahassee, Fla.; at Brenner, Clarkfield, and Minneapolis, Minn.; and in eastern Washington.
Douglas, Ariz.	4				0	1	Slight	0	Dust devil	Crossed city causing slight damage and 1 personal injury when man thrown against steel brace.
Florence, Williamson County, Tex.	5	4:18 p.m.	8-10		0	0			Tornado, rain, hail, and electrical	Tornado moving southeastward, then southwestward uprooted trees and damaged roofs and powerlines. Scattered hail damaged crops. Believed to be same storm that left hail and wind damage from Salado, Jarrell, and Georgetown to Rockdale, Texas.

* Miles instead of yards.
** Yards instead of miles.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JUNE 1955

Severe flash floods occurred during June on the North Platte River in Wyoming and Nebraska and in the Colorado River Basin at Las Vegas, Nev. Floods reported elsewhere were light. There was no flooding east of the Mississippi River except on the La Crosse River in Wisconsin.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The flooding on the La Crosse River at West Salem, Wis., on June 3 was due to heavy local rainfall during the first 2 days of June. The rainfall during the night of the 2d-3d averaged over 2 inches over the Basin. Surface runoff was quite heavy because of the heavy antecedent rains on May 31. The flood damage was not nearly so great as the damage resulting from the heavy downpour of rain lodging grain and hay crops.

Missouri Basin.--Heavy rains during the afternoon and night of the 26th caused flash floods on the North Platte River in southeastern Wyoming and southwestern Nebraska. This was the worst flood on the North Platte River in 25 years. The crest passed Scottsbluff, Nebr., about 10:00 a.m. on the 28th. There was about a 5-foot rise in the river from Wyoming to Scottsbluff, Nebr., with flooding limited mostly to pasture lands along the river. Some cultivated fields were also flooded but they were under water for such a brief period that in most instances it was a benefit to the crop. In Scottsbluff, the city park and zoo were flooded but precautions had been taken and there was no loss. Flooding below Scottsbluff was minor. Only one bridge across the North Platte River was damaged and that was just an approach to the bridge at Minatare, Nebr., where water undercut a support. The bridge over the Cottonwood on US 26 was completely destroyed. Water was reported 4 feet deep in the main street of Fort Laramie, Wyo. Two-thirds of the basements of business houses and homes in Torrington, Wyo., were filled with water.

This flood was caused by heavy precipitation that ranged from 4.37 inches at Torrington, Wyo., to 0.55 inch at Scottsbluff, Nebr. The greatest amount of precipitation was reported within 6 to 8 miles north and south of the Platte River from Guernsey to Morrill, Nebr. Several unofficial amounts of around 6 inches were reported in the area 3 or 4 miles north of Veteran, Wyo. An unofficial amount of 9.5 inches was reported 4 miles east of Whalen Dam, Wyo., which had only 3.25 inches.

Locally heavy thundershowers (4 to 6 inches) in the Platte River Basin below North Platte, Nebr., caused minor flooding on Elm Creek near Elm Creek, Nebr., on the 16th, and on Salt and Wahoo Creeks at Ashland, Nebr., on the 24th and 25th. Damage was mainly agricultural and confined to low-lying areas.

The moderate flooding on the 17th and 18th in the upper Smoky Hill Basin above Cedar Bluff Dam, Kans., was due to torrential rains of 6 inches. The overflow was of about the same magnitude as the 1951 high water. Flash floods were also reported in the headwaters of the Smoky Hill River in Wallace County. Moderate flooding occurred at the same time on the northern tributaries of the Republican River above Cambridge, Nebr. Along the main stem of the Republican, the overflows were minor. The light flooding on the Solomon River at and above Beloit, Kans., was due to rainfall ranging from 1.5 to 3 inches on the 17th and 18th. Flood damages were light.

Arkansas Basin.--Minor flooding occurred on the Cimarron River in the vicinity of Perkins, Okla., between the 18th and 24th. Flood damages were minor.

The South Canadian River reached flood stage in the Canadian, Tex., area on May 1. There was local flooding on Deep Fork Creek at Oklahoma City, Okla., on May 11. The North Canadian River was considerably above flood stage at many places from May 19-23. Wewoka Creek flooded a small area on May 19 and 20. The North Canadian River flooded a large area from Guymon to Fort Supply Dam, Okla., from May 25 to 28. There were several small areas in the Canadian Watershed where flash floods of short duration occurred during May.

During June the North Canadian River at Woodward, Okla., was above flood stage on the 18th, 20th, and 21st. Local flash floods were reported on this stream from the 15th to the 18th. The floods during June were caused by rainfall ranging from 1 to 4 inches over the North Canadian Basin above Woodward, Okla., from the 14th to 19th. The damages were confined mostly to highways, bridges, and field crops.

WEST GULF OF MEXICO DRAINAGE

The light flooding on the Calcasieu River, the Nezpique Bayou, and the Mermentau River between the 21st and 27th was the result of heavy rain on the 20th. Oberlin, La., and Bon Wier, Tex., reported amounts of 10.95 inches. Antecedent conditions were favorable for high runoff with most of the rain occurring during the middle 2 weeks of the month. Damages from the flooding were insignificant.

GULF OF CALIFORNIA DRAINAGE

Colorado River Basin.--A heavy thunderstorm at Las Vegas, Nev., on the 13th resulted in a flash flood that did rather extensive damage in the city. The area in which the storm and flood occurred is a part of the Las Vegas Wash drainage area, which comprises a total of about 2,240 square miles. Las Vegas Wash drains into Lake Mead. A total of 1.87 inches of precipitation, mostly in a period of 30 minutes, was reported by the cooperative observer at Las Vegas. This station is in the residential section of the city. The Weather Bureau Airport Station reported 2.5 to 3 inches in less than an hour. Hailstones, measuring 0.5 inch in diameter, were also reported.

The heaviest rainfall, which occurred west of Las Vegas, flowed through the city flooding most of the streets to depths of ½ to 3 feet. Unofficial damage estimates have ranged up to $3,000,000. Old-timers consider this storm the worst deluge to strike Las Vegas since 1923.

PACIFIC SLOPE DRAINAGE

Columbia Basin.--Runoff from the mountain snow peak in the Columbia Basin this year was considerably retarded because of near-record cold temperatures during the spring. The Kootenai River, which flows across the northwest corner of Montana and northward through extreme northern Idaho, usually passes its crest by the middle of May. This year at that time the river was still at low stage. The crest was not reached until mid-June. The only place that any flooding occurred on the Kootenai this year was in a stretch of the river that lies between Bonners Ferry, Idaho, and the Canadian Border. The crest at Bonners Ferry was reached on June 16 when a stage of 31.8 feet was observed. A second crest, caused largely by heavy showers and thundershowers, brought the river back to a stage of 31.1 feet on the 28th, only slightly less than the June 16 crest. The period of high water extended from about the 10th to the end of June. As compared with other floods in the Bonners Ferry area during the past few years, losses this year were moderate with about 1,700 acres inundated, either by seepage or direct overflow. Nearly 8,000 acres were lost in flooding last year, while in 1948 more than 30,000 acres were inundated. Minor damage was sustained by 5 dwellings.

Crest stages in the lower Columbia and Willamette Rivers at Portland were almost as high as those in 1952 and 1954. The number of days the rivers were above flood also were not far different from similar occurrences of many preceding years. There were 31 days, during this flood, at Vancouver, Wash., when the Columbia was above flood stage (15 feet) and 21 days at Portland when the Willamette, because of backwater, was above flood stage (18 feet). Except for slight damage in Yakima Basin, there was no damage in the lower Columbia except that caused by bank erosion and flooding of low-lying pasture land.

PUGET SOUND DRAINAGE

A warm period from June 8 to 13 caused a heavy snow melt runoff in the Snohomish, Snoqualmie, Skagit, and Green Rivers. On June 9, extremely high temperatures occurred throughout western Washington with the absolute record of 100° at Seattle being equalled. The Skagit and Green Rivers approached flood stages but only the Snohomish and Snoqualmie exceeded their flood stages by about 1 foot. Only isolated lowland areas were inundated, principally by back waters along the Snohomish, Snoqualmie, and Green Rivers. Some pastureland was flooded, but damage to pastures and crops was negligible.

FLOOD STAGE DATA

Table 5

(All dates in June unless otherwise specified)

JUNE 1955

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM Upper Mississippi Basin					
La Crosse: West Salem, Wis.	7	3	3	8.45	3
Missouri River Basin					
Arikaree: Haigler, Nebr.		15	15	9.1	15
North Fork: Benkelman, Nebr.	5	15	15	6.3	15
		19	19	5.8	19
Frenchman's Creek: Culbertson, Nebr.	7	17	18	8.1	17
Stinking Water Creek: Palisade, Nebr.	9.5	17	17	10.1	17
Red Willow: Red Willow, Nebr.	12	17	18	16.0	17
Republican: Cambridge, Nebr.	6	17	18	7.5	17
				7.0	18
Orleans, Nebr.	9	18	18	9.8	18
Guide Rock, Nebr.	10	5	5	10.4	5
Smoky Hill: Elkader, Kans.	8	17	17	9.0	17
Arnold, Kans.	7	17	18	11.55	17
No. Fork Solomon: Lenora, Kans.	10	15	15	10.0	15
Solomon: Beloit, Kans.	20	19	20	22 9	20
Arkansas River Basin					
Cimarron: Perkins, Okla.	11	18	22	13.2	19
		23	24	11	24
Deep Fork Creek: Dewar, Okla.	18	May 21	May 22	20.0	May 21
		May 26	May 31	20.2	May 29
North Canadian: Beaver, Okla.	9	May 16	May 16	9.2	May 16
Woodward, Okla.	10	May 19	May 21	11.6	May 20
		May 28	May 28	10.3	May 28
		18	18	10.8	18
		20	21	12.2	21
Watonga, Okla.	7	May 19	May 19	8.65	May 19
Yukon, Okla.	11	May 20	May 21	11.5	May 21
		May 28	May 28	11.8	May 28
MISSISSIPPI SYSTEM (Cont'd.) Arkansas River Basin (Cont'd.)					
North Canadian: Oklahoma City, Okla.	12	May 19	May 20	12.2	May 19
WEST GULF OF MEXICO DRAINAGE					
Nezpique Bayou: Basile, La.	22	May 22	May 26	27.3	May 23
Mermentau: Mermentau, La.	5	May 24	May 26	5.2	May 25
Calcasieu: Kinder, La.	16	May 21	May 24	19.4	May 22
Old Town Bay, La.	4	May 21	May 27	6.9	May 23
PACIFIC SLOPE DRAINAGE					
Columbia River Basin					
Kootenai: Bonners Ferry, Idaho	31	14	16	31.8	15
		26	27	31.1	27
Willamette: Portland, Oreg.	18	12	July 5	19.3	27,28, July 2
Columbia: Vancouver, Oreg.	15	10	July 11	19.5	27,28, July 2
Snoqualmie: Carnation 1 NW, Wash.	51	10	10	51.7	10
Snohomish: Snohomish, Wash.	23	10	11	24.8	11

* Provisional

RADIOSONDE DATA

Average monthly values

Table 20

JUNE 195

Standard pressure surface (mb)	ALBUQUERQUE, N. MEX. (836 MB.)				ANCHORAGE, ALASKA (1007 MB.)				ANNETTE, ALASKA (1014 MB.)				ATLANTA, GA. (980 MB.)				BARROW, ALASKA (1010 MB.)				BETHEL, ALASKA (1009 MB.)				BISMARCK, N. DAK. (954 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,619	24.1	21	30	42	13.1	54	30	37	12.5	74	30	309	21.5	68	30	8	1.0	94	30	4	9.7	74	30	505	17.0	73
1,000	30	11			30	86	12.1	54	30	149	11.6	70	30	132			30	92	.6	91	30	79			30	98		
950	30	479			30	509	8.7	59	30	577	8.4	70	30	581	21.4	58	30	513	1.3	80	30	505	5.0	77	30	544		
900	30	964			30	957	5.2	64	30	1,020	5.3	74	30	1,046	18.3	60	30	940	2.5	73	30	940	1.9	80	30	1,001	15.7	63
850	30	1,470			30	1,421	1.8	69	30	1,484	2.2	75	30	1,533	14.6	64	30	1,401	.6	66	30	1,399	- .4	76	30	1,484	12.3	66
800	30	2,000	22.4	20	30	1,907	- 1.4	71	30	1,971	- .6	70	30	2,043	11.3	62	30	1,885	- 2.0	65	30	1,881	- 2.8	76	30	1,990	8.9	66
750	30	2,558	17.8	21	30	2,422	- 4.4	70	30	2,488	- 3.2	64	30	2,586	8.1	58	30	2,404	- 4.7	63	30	2,392	- 5.7	74	30	2,530	5.5	61
700	30	3,140	12.8	24	30	2,958	- 7.6	66	30	3,028	- 5.8	59	30	3,146	5.2	47	30	2,935	- 7.7	62	30	2,928	- 8.6	67	30	3,082	2.4	55
650	30	3,758	7.3	31	30	3,536	-10.9	65	30	3,608	- 9.0	56	30	3,756	2.2	42	30	3,519	-11.3	56	30	3,504	-11.6	63	30	3,681	- 1.2	53
600	30	4,408	1.6	37	30	4,143	-14.3	62	30	4,221	-12.6	53	30	4,391	- 1.6	39	29	4,119	-15.2	48	30	4,108	15.0	59	30	4,312	- 5.1	49
550	30	5,102	- 4.4	42	30	4,798	-17.9	60	30	4,881	-16.5	49	29	5,082	- 5.9		29	4,779	-19.3	45	30	4,763	-18.8	52	29	4,991	- 9.6	43
500	30	5,844	-10.6	48	30	5,505	-21.8	56	30	5,590	-20.9	46	29	5,819	-10.5		29	5,473	-24.1	40	30	5,465	-23.3	48	29	5,720	-14.6	43
450	30	6,658	-16.6	43	30	6,274	-26.8	52	30	6,363	-26.1	42	29	6,636	-15.7		29	6,243	-29.6	41	30	6,230	-28.5	46	29	6,516	-20.0	39
400	30	7,521	-22.7	31	30	7,112	-32.8	51	30	7,203	-31.9	39	29	7,499	-22.2	37	28	7,061	-35.7		30	7,061	-34.5	43	29	7,373	-26.3	39
350	30	8,485	-29.9		30	8,036	-40.1		30	8,132	-38.6		29	8,467	-29.5		28	7,976	-42.6		30	7,980	-41.5		29	8,324	-33.6	
300	30	9,565	-38.1		30	9,070	-47.2		30	9,174	-45.2		29	9,548	-37.9		27	8,999	-49.0		30	9,008	-48.1		29	9,387	-41.5	
250	30	10,795	-47.0		29	10,262	-51.6		30	10,375	-49.9		29	10,778	-47.2		27	10,183	-51.5		30	10,199	-49.7		28	10,598	-49.6	
200	29	12,249	-55.5		29	11,716	-48.8		30	11,830	-49.6		29	12,223	-56.4		27	11,650	-45.4		30	11,666	-47.1		28	12,038	-54.6	
175	29	13,093	-58.8		29	12,596	-47.3		30	12,705	-48.8		29	13,064	-59.8		27	12,541	-44.5		30	12,551	-46.1		28	12,892	-54.2	
150	29	14,055	-61.0		29	13,615	-46.6		30	13,715	-49.6		29	14,020	-62.6		27	13,572	-44.7		29	13,571	-46.5		28	13,880	-54.1	
125	28	15,186	-63.1		28	14,821	-47.3		30	14,904	-50.7		26	15,134	-64.0		27	14,789	-45.4		29	14,779	-47.0		27	15,040	-56.1	
100	26	16,554	-64.3		28	16,293	-47.9		30	16,351	-52.2		22	16,496	-64.0		27	16,274	-45.9		29	16,253	-47.5		27	16,452	-57.3	
80	23	17,920	-62.4		27	17,762	-48.5		30	17,793	-52.7		21	17,868	-61.6		27	17,756	-45.9		29	17,724	-48.0		26	17,865	-57.3	
60	22	19,716	-58.6		24	19,644	-48.5		29	19,645	-52.7		18	19,652	-59.4		26	19,671	-45.4		28	19,615	-48.3		21	19,686	-56.3	
50	20	20,868	-56.7		22	20,842	-48.3		26	20,826	-52.4		17	20,796	-58.0		25	20,885	-45.0		28	20,814	-48.2		17	20,839	-55.4	
40	17	22,285	-54.6		19	22,310	-48.0		23	22,276	-51.1		14	22,224	-55.0		23	22,380	-44.5		27	22,282	-47.7		12	22,268	-53.6	
30	14	24,146	-51.3		8	24,177	-47.1		10	24,156	-50.3		12	24,078	-50.8		12	24,249	-44.9		22	24,179	-46.8		8	24,123	-51.6	
20																					13	26,891	-44.5					

Standard pressure surface (mb)	BOISE, IDAHO (912 MB.)				BROWNSVILLE, TEX. (1012 MB.)				BUFFALO, N. Y. (992 MB.)				BURRWOOD, LA. (1014 MB.)				CARIBOU, ME. (989 MB.)				CHARLESTON, S. C. (1014 MB.)				COLUMBIA, MO. (986 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	868	21.8	38	30	7	26.2	79	30	182	17.7	79	30	3	24.8	80	30	191	14.6	80	30	13	21.6	85	30	238	19.9	72
1,000	30	63			30	109	25.5	79	30	112			30	128	25.0	73	30	97			30	130	22.9	75	30	114		
950	30	518			30	569	22.9	70	30	553	18.1	59	30	579	22.2	66	30	537	14.9	67	30	582	21.2	63	30	560	20.4	61
900	30	987	22.1	32	30	1,031	21.4	53	30	1,013	14.7	61	30	1,045	19.1	62	30	991	12.3	65	30	1,044	18.3	62	30	1,024	17.2	63
850	30	1,480	18.4	32	30	1,525	19.5	43	30	1,494	11.0	66	30	1,534	15.9	57	30	1,468	9.7	67	30	1,532	14.9	61	30	1,509	13.8	66
800	30	1,995	14.0	36	30	2,044	16.9	33	30	1,996	7.3	68	30	2,047	13.4	46	30	1,968	6.3	68	30	2,042	11.3	61	30	2,018	10.8	65
750	30	2,543	9.6	40	30	2,597	13.6	32	30	2,531	3.9	60	30	2,594	10.4	40	30	2,498	3.1	67	30	2,586	8.2	48	30	2,560	8.2	57
700	30	3,103	5.0	43	30	3,168	9.9	32	30	3,082	.9	52	30	3,159	7.5	37	30	3,051	- .2	60	30	3,145	5.3	42	30	3,121	5.0	50
650	30	3,709	.6	45	30	3,787	5.9	34	30	3,679	- 2.2	45	30	3,769	4.1	33	30	3,643	- 3.6	52	30	3,756	2.2	42	30	3,725	1.2	50
600	30	4,341	- 3.6	48	30	4,430	1.6	35	30	4,306	- 6.0	37	30	4,413	.3	34	30	4,269	- 6.9	47	29	4,389	- 1.3	39	30	4,362	- 2.8	42
550	30	5,028	- 8.2	46	30	5,126	- 2.6	35	30	4,982	-10.0	35	30	5,102	- 3.7	31	30	4,943	-11.1	44	29	5,084	- 5.1		29	5,051	- 7.1	41
500	30	5,757	-13.1	39	30	5,875	- 7.4	32	30	5,710	-14.9		30	5,851	- 8.7	31	30	5,668	-16.1	42	29	5,820	- 9.8		29	5,786	-12.2	41
450	30	6,560	-18.8		29	6,699	-12.5		30	6,506	-20.9		30	6,663	-14.0		30	6,462	-21.8	39	29	6,636	-15.2		29	6,592	-17.8	41
400	30	7,419	-25.3	35	29	7,577	-18.7		30	7,358	-27.4		30	7,544	-20.1		30	7,308	-28.5	39	29	7,505	-21.3		29	7,455	-24.0	42
350	30	8,372	-33.1		29	8,559	-25.5		30	8,303	-35.2		30	8,520	-27.0		30	8,250	-35.7		29	8,475	-28.6		29	8,414	-31.7	38
300	30	9,436	-41.6		29	9,658	-33.9		30	9,359	-43.1		30	9,612	-35.3		30	9,304	-43.5		29	9,560	-36.7		29	9,484	-39.9	
250	30	10,648	-50.2		29	10,910	-43.6		30	10,564	-51.0		29	10,856	-45.0		30	10,507	-50.9		29	10,797	-46.0		29	10,706	-48.4	
200	30	12,082	-55.8		28	12,373	-55.4		29	11,995	-55.5		29	12,310	-55.8		30	11,947	-53.5		29	12,246	-56.5		29	12,148	-56.0	
175	30	12,930	-56.0		27	13,212	-61.6		28	12,845	-56.4		29	13,149	-60.9		30	12,806	-53.1		27	13,083	-60.0		29	12,991	-58.2	
150	30	13,910	-56.1		23	14,149	-67.8		27	13,825	-56.4		28	14,093	-65.7		30	13,797	-53.5		26	14,039	-63.0		28	13,960	-59.6	
125	30	15,067	-57.0		19	15,228	-73.1		26	14,981	-57.2		26	15,187	-69.0		29	14,968	-54.9		26	15,157	-64.2		28	15,098	-60.4	
100	27	16,471	-58.0		13	16,535	-74.0		24	16,382	-57.8		21	16,518	-69.3		29	16,388	-56.1		24	16,513	-64.3		26	16,477	-61.8	
80	24	17,873	-57.8		11	17,858	-69.0		19	17,786	-58.1		20	17,859	-66.3		28	17,806	-56.4		23	17,884	-62.4		24	17,859	-60.5	
60	21	19,690	-56.4		9	19,619	-63.1		11	19,610	-57.0		17	19,610	-62.4		27	19,638	-55.0		22	19,667	-59.8		22	19,658	-59.0	
50	21	20,847	-56.1		9	20,748	-60.1		9	20,763	-55.9		17	20,741	-59.9		23	20,806	-54.1		22	20,809	-58.1		20	20,811	-57.1	
40	19	22,275	-53.7		7	22,162	-56.7		9	22,188	-54.2		15	22,139	-56.7		19	22,256	-52.5		19	22,218	-55.3		18	22,236	-54.3	
30	14	24,132	-51.8		5	24,000	-53.5		5	24,060	-51.6		10	23,967	-53.3		11	24,141	-50.3		15	24,066	-52.1		15	24,091	-51.6	
20													5	26,600	-51.0						7	26,702	-48.8		6	26,755	-47.7	

Standard pressure surface (mb)	DODGE CITY, KANS. (922 MB.)				EL PASO, TEX. (879 MB.)				ELY, NEV. (808 MB.)				FAIRBANKS, ALASKA (991 MB.)				FT. HUACHUCA, ARIZ. (856 MB.)				GLASGOW, MONT. (938 MB.)				GRAND JUNCTION, COLO. (849 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	792	20.2	67	30	1,195	28.6	19	30	1,908	17.6	37	30	135	17.3	49	29	1,428	25.9	17	30	648	18.8	51	30	1,474	22.9	24
1,000	30	85			30	26			30	39			30	56			29	28			30	89			30	23		
950	30	539			30	494			30	504			30	490	13.8	48	29	499			30	535			30	484		
900	30	1,005	20.0	60	30	978			30	978			30	945	9.8	53	29	983			30	1,000	16.9	48	30	965		
850	30	1,496	17.4	59	30	1,487	27.5	19	30	1,468			30	1,415	5.5	59	29	1,488	26.2	18	30	1,484	12.9	53	30	1,467		
800	30	2,011	14.5	53	30	2,019	23.0	21	30	1,992	19.3	30	30	1,907	1.4	66	29	2,016	21.9	21	30	1,990	9.3	56	30	1,993	20.6	25
750	30	2,559	11.4	44	30	2,578	18.2	24	30	2,543	14.6	33	30	2,426	- 2.6	71	29	2,575	16.9	25	30	2,528	5.5	59	30	2,548	15.6	27
700	30	3,126	7.5	42	30	3,161	13.0	28	30	3,119	9.6	36	30	2,966	- 6.2	67	29	3,152	11.7	30	30	3,082	1.6	59	30	3,125	10.3	32
650	30	3,735	3.0	42	30	3,783	7.5	34	30	3,727	4.3	42	30	3,546	- 9.6	63	29	3,767	6.2	32	30	3,683	- 1.7	51	30	3,739	4.7	41
600	30	4,375	- 1.8	48	30	4,431	2.1	39	30	4,374	- 1.1	46	29	4,155	-13.3	55	29	4,414	1.1	32	29	4,311	- 5.4	43	30	4,382	- 1.0	47
550	30	5,062	- 6.7	48	30	5,124	- 3.6	42	30	5,058	- 6.4	45	29	4,813	-17.5	53	29	5,107	- 3.9	30	29	4,986	- 9.9	40	29	5,074	- 6.6	49
500	30	5,798	-11.6	42	30	5,871	- 9.1	38	29	5,797	-11.9	44	29	5,519	-21.9	53	29	5,853	- 9.1		29	5,716	-14.7		29	5,807	-12.4	49
450	30	6,607	-17.2	38	30	6,684	-15.2		29	6,604	-17.5	38	29	6,294	-27.2	55	28	6,667	-14.8		29	6,512	-20.4		29	6,611	-18.2	38
400	30	7,469	-23.6	36	30	7,559	-21.3		29	7,467	-23.9		29	7,124	-33.0	54	28	7,538	-21.4		29	7,367	-26.8		29	7,471	-24.7	36
350	30	8,430	-30.9		27	8,522	-28.8		29	8,426	-31.6		29	8,049	-39.9		28	8,508	-28.9		29	8,314	-34.4		29	8,429	-32.1	
300	30	9,505	-38.6		27	9,606	-37.3		29	9,497	-40.0		29	9,083	-47.5		28	9,591	-37.4		29	9,373	-42.1		29	9,498	-40.5	
250	30	10,732	-47.2		27	10,839	-46.6		29	10,718	-48.5		28	10,275	-53.1		26	10,830	-46.3		28	10,581	-49.9		29	10,715	-49.3	
200	29	12,174	-56.3		27	12,286	-56.6		29	12,158	-56.3		28	11,724	-48.5		26	12,278	-56.5		27	12,012	-54.6		29	12,151	-56.4	
175	29	13,015	-58.6		25	13,125	-60.9		29	13,001	-57.7		28	12,606	-46.7		21	13,112	-60.8		27	12,866	-54.1		29	12,995	-58.1	
150	29	13,977	-60.4		25	14,073	-64.7		29	13,971	-58.6		27	13,628	-46.2		11	14,088	-63.5		27	13,855	-53.7		29	13,963	-58.9	
125	27	15,104	-61.2		25	15,178	-67.4		28	15,112	-59.7		27	14,836	-46.8						27	15,023	-54.9		27	15,101	-60.1	
100	25	16,479	-62.4		24	16,514	-68.2		26	16,495	-60.6		26	16,312	-47.9						27	16,442	-56.5		25	16,484	-62.2	
80	20	17,854	-60.5		22	17,854	-64.8		26	17,882	-60.5		25	17,781	-48.3						27	17,857	-56.3		22	17,859	-61.0	
60	17	19,654	-58.9		21	19,625	-60.3		24	19,685	-58.3		25	19,674	-47.9						26	19,687	-55.5		22	19,656	-58.3	
50	14	20,796	-56.7		18	20,783	-58.0		22	20,833	-57.2		25	20,876	-47.5						25	20,849	-54.5		20	20,807	-56.6	
40	12	22,215	-54.3		17	22,203	-55.5		21	22,251	-54.6		22	22,354	-47.1						23	22,287	-52.8		19	22,228	-54.1	
30	10	24,078	-51.3		12	24,068	-52.4		13	24,108	-51.9		20	24,267	-46.2						19	24,161	-49.9		16	24,073	-52.0	
20					7	26,719	-48.7		5	26,753	-49.0										8	26,777	-48.6		6	26,695	-50.3	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

JUNE 1955

Standard pressure surface (mb)	GREAT FALLS, MONT. (886 MB.)				GREEN BAY, WIS. (988 MB.)				GREENSBORO, N. C. (984 MB.)				HATTERAS, N. C. (1014 MB.)				HILO, T. H. (1016 MB.)				INTERNAT. FALLS, MINN. (970 MB.)				KOTZEBUE, ALASKA (1009 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,123	16.7	54	30	210	17.1	77	30	273	18.7	78	30	3	22.0	79	30	[illegible]	23.7	73	30	360	16.5	74	30	5	5.8	82
1,000	30	79			30	109			30	129			30	127	21.6	76	30	152	22.0	74	30	98			30	79	6.2	75
950	30	530			30	553	17.9	65	30	576	20.1	59	30	572	19.2	66	30	596	18.4	80	30	542	17.8	64	30	505	6.6	64
900	30	997			30	1,011	14.8	66	30	1,040	17.2	61	30	1,034	16.1	65	30	1,058	14.8	85	30	1,000	14.8	66	30	943	4.2	66
850	30	1,480	14.7	49	30	1,492	11.6	69	30	1,525	13.5	67	30	1,517	12.7	66	30	1,540	12.3	85	30	1,481	11.7	71	30	1,405	1.6	66
800	30	1,989	11.0	53	30	1,997	8.5	65	30	2,033	9.6	70	30	2,023	9.4	65	30	2,048	11.4	59	30	1,985	8.3	72	30	1,891	- 1.3	67
750	30	2,529	6.6	60	30	2,532	5.4	61	30	2,571	6.0	66	30	2,563	6.2	60	30	2,595	10.9		29	2,522	5.2	68	30	2,407	- 4.4	64
700	30	3,087	2.4	62	30	3,089	2.4	54	30	3,129	3.1	50	30	3,119	3.6	48	30	3,160	8.9		29	3,077	2.1	60	30	2,943	- 7.9	63
650	30	3,687	- 1.6	57	30	3,688	- .9	51	30	3,730	.4	42	30	3,722	.3	43	30	3,778	5.9		29	3,676	- 1.2	55	30	3,524	-11.1	57
600	30	4,315	- 5.3	53	30	4,319	- 4.7	49	30	4,365	- 2.8	39	30	4,354	- 3.2		30	4,421	2.4		29	4,306	- 4.8	45	30	4,126	-14.7	54
550	30	5,001	- 9.7	51	30	4,995	- 9.0	42	30	5,051	- 7.2	41	30	5,041	- 7.2		30	5,115	- 2.2		28	4,984	- 9.3	41	30	4,783	-18.8	49
500	30	5,723	-14.6	46	30	5,729	-13.9	41	30	5,786	-12.1	39	30	5,773	-12.0		30	5,868	- 7.4		28	5,713	-14.2	41	30	5,483	-23.3	46
450	30	6,523	-20.0	44	30	6,526	-19.4	37	30	6,593	-17.5		30	6,579	-17.6		30	6,690	-13.5	31	28	6,508	-20.0	40	30	6,251	-28.5	44
400	30	7,377	-26.2	42	30	7,386	-25.9	36	30	7,456	-23.8		30	7,443	-23.7		30	7,565	-19.8	33	27	7,363	-26.5	37	30	7,080	-34.6	43
350	30	8,327	-33.8	43	30	8,338	-33.3		30	8,417	-30.9		30	8,403	-30.7		30	8,541	-27.6		26	8,312	-33.9	39	30	7,998	-41.5	
300	30	9,388	-42.1		30	9,401	-41.5		30	9,493	-38.8		29	9,480	-38.7		30	9,630	-36.5		24	9,371	-42.0		30	9,026	-48.8	
250	29	10,597	-51.3		30	10,613	-50.1		30	10,720	-47.6		29	10,705	-47.6		30	10,866	-46.4		24	10,582	-50.2		30	10,207	-52.6	
200	29	12,026	-55.6		30	12,049	-55.6		30	12,164	-55.9		29	12,148	-56.3		30	12,310	-57.9		20	12,004	-54.1		30	11,663	-47.0	
175	29	12,877	-55.1		30	12,899	-55.9		30	13,008	-58.2		29	12,987	-59.8		30	13,141	-63.8		17	12,858	-53.1		30	12,550	-45.6	
150	29	13,862	-54.3		29	13,883	-56.0		30	13,974	-59.7		29	13,945	-60.9		28	14,073	-69.0		16	13,843	-52.6		30	13,575	-45.5	
125	28	15,025	-55.9		29	15,039	-57.3		30	15,112	-60.3		29	15,075	-62.0		27	15,154	-71.8		15	15,011	-54.3		30	14,787	-46.0	
100	27	16,442	-56.8		29	16,444	-58.4		30	16,498	-61.2		28	16,449	-61.9		27	16,473	-70.7		11	16,435	-55.7		30	16,269	-46.4	
80	23	17,861	-57.0		26	17,850	-57.9		26	17,880	-60.1		25	17,830	-60.6		22	17,791	-71.3		9	17,855	-56.6		30	17,747	-46.7	
60	23	19,685	-56.1		24	19,666	-56.7		25	19,679	-58.2		24	19,624	-58.6		21	19,510	-66.0		[illegible]	19,682	-55.9		30	19,651	-46.8	
50	20	20,848	-54.7		22	20,824	-55.3		24	20,827	-56.9		23	20,774	-57.2		21	20,624	-62.8		7	20,845	-54.4		30	20,858	-46.6	
40	15	22,287	-52.5		22	22,253	-53.4		23	22,249	-54.6		22	22,188	-54.9		19	22,008	-59.3		5	22,278	-53.2		28	22,335	-46.1	
30	11	24,158	-50.0		18	24,105	-51.2		18	24,112	-52.0		16	24,029	-52.0		12	23,841	-54.7						20	24,232	-45.3	
20	7	26,850	-45.9		5	26,761	-48.5		7	26,760	-48.4																	

Standard pressure surface (mb)	LAKE CHARLES, LA. (1014 MB.)				LANDER, WYO. (828 MB.)				LAS VEGAS, NEV. (931 MB.)				LITTLE ROCK, ARK. (1004 MB.)				MAZATLAN, MEXICO (1008 MB.)				MCGRATH, ALASKA (996 MB.)				MEDFORD, ORE. (968 MB.)			
SURFACE	30	5	24.5	78	30	1,696	16.6	49	30	660	31.4	11	30	79	22.5	75	30	14	27.6	73	30	103	14.0	55	30	401	22.3	40
1,000	30	123	25.2	71	30	55			30	16			30	115			30	85	26.8	74	30	73			30	116		
950	30	575	22.9	68	30	502			30	484			30	568	21.9	61	30	546	23.9	69	30	503	10.1	59	30	567	21.0	41
900	30	1,043	19.7	67	30	973			30	966	30.0		30	1,030	18.5	64	30	1,011	23.6	59	30	949	6.2	65	30	1,028	17.1	47
850	30	1,533	16.6	61	30	1,472			30	1,471	25.3		30	1,518	15.3	63	30	1,509	21.1	64	30	1,414	2.3	71	30	1,512	13.0	55
800	30	2,048	14.1	49	30	1,991	15.5	40	30	1,997	20.4	20	30	2,030	12.4	59	30	2,033	18.1	65	30	1,901	- 1.2	73	30	2,018	9.2	62
750	30	2,592	11.4	39	30	2,537	11.2	44	30	2,551	15.1	24	30	2,577	9.5	52	30	2,589	14.9	59	30	2,415	- 4.3	71	30	2,559	6.1	58
700	30	3,164	8.2	34	30	3,105	6.6	48	30	3,127	9.7	30	30	3,139	6.2	51	30	3,164	11.4	57	30	2,953	- 7.6	72	30	3,113	3.2	47
650	30	3,776	4.2	38	30	3,709	1.8	53	30	3,737	4.2	36	30	3,747	2.4	52	30	3,783	7.0	60	30	3,531	-10.8	68	30	3,717	- .5	46
600	30	4,418	.2	38	30	4,348	- 3.3	59	30	4,381	- .4	31	30	4,385	- 1.6	49	30	4,433	2.3	62	30	4,137	-14.2	65	30	4,346	- 4.2	40
550	30	5,108	- 3.9	33	30	5,024	- 8.4	57	30	5,072	- 4.8		30	5,075	- 5.8	42	30	5,130	- 2.6	61	30	4,796	-18.2	61	30	5,030	- 8.5	38
500	30	5,856	- 8.5	32	30	5,762	-13.5	50	30	5,813	-10.3		30	5,813	-10.8	42	29	5,879	- 7.5	56	30	5,498	-22.7	59	30	5,759	-13.4	42
450	30	6,675	-13.6	31	30	6,559	-19.3	46	30	6,623	-16.5		30	6,626	-16.3	40	28	6,705	-12.4	53	30	6,269	-27.7	57	30	6,563	-18.8	39
400	30	7,553	-19.5	32	30	7,420	-25.8	40	30	7,489	-23.7		30	7,492	-22.3	33	28	7,584	-18.2	48	30	7,100	-33.4	56	30	7,420	-24.7	35
350	29	8,529	-26.7		30	8,372	-33.2	38	30	8,449	-31.3		28	8,457	-29.9		27	8,566	-25.1		30	8,024	-40.5		30	8,376	-32.2	33
300	29	9,623	-34.7		29	9,435	-41.4		30	9,520	-39.6		28	9,536	-38.0		26	9,666	-33.4		30	9,056	-47.6		30	9,445	-40.7	
250	29	10,870	-44.0		29	10,646	-50.3		30	10,741	-48.3		28	10,765	-47.3		23	10,914	-43.4		30	10,243	-52.4		30	10,658	-50.2	
200	28	12,331	-54.9		28	12,069	-57.3		30	12,182	-56.5		28	12,211	-56.1		23	12,377	-54.9		30	11,697	-47.8		29	12,090	-57.6	
175	27	13,173	-60.2		28	12,913	-56.9		30	13,022	-59.3		28	13,052	-59.3		21	13,216	-61.1		30	12,580	-46.7		29	12,931	-57.6	
150	27	14,122	-65.0		27	13,889	-56.8		30	13,982	-60.7		25	14,004	-61.6		20	14,158	-67.3		30	13,602	-46.3		29	13,903	-57.8	
125	24	15,224	-67.5		27	15,040	-57.9		30	15,111	-62.1		25	15,127	-63.7		14	15,242	-73.2		30	14,812	-46.8		28	15,053	-58.0	
100	21	16,562	-68.1		27	16,437	-60.0		29	16,485	-63.4		23	16,493	-64.5						29	16,287	-47.4		28	16,456	-58.9	
80	20	17,911	-65.6		23	17,841	-59.1		26	17,852	-62.1		21	17,860	-61.9						29	17,759	-47.7		27	17,855	-58.4	
60	19	19,673	-61.3		19	19,647	-57.2		25	19,644	-59.1		17	19,649	-59.2						29	19,656	-47.6		27	19,669	-57.0	
50	19	20,811	-58.9		18	20,806	-55.7		25	20,790	-57.4		15	20,797	-57.0						28	20,857	-47.2		26	20,826	-56.1	
40	18	22,221	-56.2		17	22,233	-53.5		25	22,207	-54.6		14	22,227	-54.6						28	22,334	-46.4		23	22,251	-54.4	
30	16	24,059	-53.4		11	24,092	-51.2		23	24,069	-51.4		7	24,044	-51.8						25	24,248	-45.5		18	24,103	-52.0	
20	10	26,707	-48.9						6	26,751	-47.2										8	26,914	-44.1					
15	8	28,617	-46.6																									

Standard pressure surface (mb)	MERIDA, MEXICO (1010 MB.)				MIAMI, FLA. (1015 MB.)				MIDLAND, TEX. (913 MB.)				NANTUCKET, MASS. (1012 MB.)				NASHVILLE, TENN. (994 MB.)				NOME, ALASKA (1009 MB.)				NORTH PLATTE, NEBR. (915 MB.)			
SURFACE	30	27	27.1	78	30	4	25.3	83	30	871	26.2	42	30	14	13.8	93	30	177	20.7	75	30	7	6.6	82	30	848	17.8	71
1,000	30	119	26.6	77	30	137	25.3	76	30	54			30	111	15.5	85	30	127			30	82	5.7	80	30	81		
950	30	579	24.7	73	30	585	22.6	74	30	516			30	554	15.3	73	30	574	20.3	59	30	506	5.0	73	30	532		
900	30	1,046	22.5	70	30	1,057	19.6	72	30	997	26.2	39	30	1,005	13.2	71	30	1,037	16.9	61	30	941	2.6	71	30	993	18.5	63
850	30	1,542	19.5	73	30	1,547	16.7	68	30	1,498	22.9	40	30	1,484	10.4	68	30	1,521	13.5	59	30	1,401	.0	72	30	1,481	15.7	62
800	30	2,061	16.0	72	30	2,061	13.9	62	30	2,023	19.6	39	30	1,986	7.2	67	30	2,029	10.4	58	30	1,884	- 2.7	69	30	1,994	13.0	60
750	30	2,610	12.8	68	30	2,602	11.1	56	30	2,582	15.5	42	30	2,521	4.4	64	30	2,570	7.4	49	30	2,397	- 5.5	67	30	2,538	9.4	60
700	30	3,184	9.4	62	30	3,176	7.7	55	30	3,156	11.0	46	30	3,073	1.3	60	30	3,129	4.2	43	30	2,930	- 8.6	63	30	3,102	5.6	56
650	30	3,800	5.8	55	30	3,783	4.3	52	30	3,773	6.1	47	30	3,670	- 2.0	55	30	3,735	1.0	40	30	3,509	-11.9	61	30	3,708	1.4	53
600	30	4,447	2.3	48	30	4,432	.7	48	30	4,420	1.1	47	30	4,299	- 5.6	50	30	4,367	- 2.6	36	30	4,110	-15.5	59	29	4,341	- 3.2	46
550	30	5,146	- 1.3	43	30	5,125	- 3.4	44	30	5,112	- 4.1	45	30	4,975	-10.0	44	30	5,053	- 7.0	36	30	4,764	-19.5	54	29	5,023	- 8.0	44
500	30	5,899	- 5.3	44	29	5,872	- 8.0	42	30	5,858	- 9.2	39	30	5,704	-14.8	40	30	5,788	-12.0		30	5,463	-24.2	50	29	5,756	-13.3	44
450	30	6,728	-10.3	41	28	6,692	-13.1	44	30	6,675	-14.4		30	6,495	-20.4	39	30	6,593	-17.5		30	6,229	-29.6	49	29	6,561	-18.9	35
400	30	7,617	-16.3	40	27	7,573	-19.4	46	30	7,548	-20.7		30	7,354	-26.7	39	30	7,457	-23.5		30	7,053	-35.2	48	29	7,416	-25.2	
350	29	8,608	-23.8		26	8,551	-26.0	49	30	8,521	-28.0		30	8,304	-33.7		30	8,420	-30.3		30	7,970	-41.9		29	8,371	-32.5	
300	29	9,713	-32.4		26	9,648	-34.5	44	30	9,608	-36.3		30	9,367	-41.3		30	9,498	-38.4		30	8,999	-48.0		29	9,439	-40.5	
250	29	10,970	-42.5		26	10,894	-44.9		29	10,846	-45.8		30	10,582	-48.9		30	10,727	-47.2		30	10,193	-49.2		29	10,655	-49.0	
200	28	12,435	-55.0		26	12,346	-56.8		29	12,297	-56.0		30	12,027	-54.4		30	12,176	-55.3		29	11,661	-46.1		28	12,094	-57.3	
175	28	13,274	-62.0		25	13,178	-62.7		29	13,136	-60.7		30	12,879	-55.4		29	13,027	-58.9		29	12,550	-45.4		28	12,933	-58.7	
150	25	14,212	-68.8		25	14,115	-68.2		28	14,087	-64.4		30	13,861	-55.3		29	13,991	-60.0		29	13,578	-45.4		28	13,901	-58.2	
125	23	15,284	-74.7		22	15,192	-71.7		26	15,193	-66.7		30	15,020	-56.9		29	15,123	-62.0		29	14,792	-45.7		27	15,039	-59.7	
100	15	16,586	-76.3		18	16,497	-72.0		22	16,535	-68.7		29	16,428	-58.0		29	16,501	-62.1		28	16,277	-46.2		27	16,427	-61.3	
80	10	17,888	-71.3		17	17,821	-67.7		19	17,884	-65.3		29	17,834	-57.4		26	17,894	-60.5		28	17,758	-46.6		24	17,809	-60.3	
60					17	19,569	-63.4		18	19,651	-61.3		29	19,652	-56.8		24	19,690	-58.6		28	19,665	-46.6		22	19,605	-58.7	
50					16	20,701	-60.1		18	20,788	-58.7		28	20,811	-55.9		24	20,840	-56.7		28	20,874	-46.4		19	20,756	-57.0	
40					15	22,105	-57.1		17	22,196	-55.8		26	22,240	-53.3		23	22,267	-54.3		26	22,352	-46.1		16	22,171	-54.5	
30					12	23,934	-52.5		14	24,040	-52.0		20	24,109	-50.7		20	24,122	-51.4		23	24,264	-45.2		13	24,028	-52.2	
20									5	26,685	-47.7		7	26,784	-47.3		10	26,762	-48.0		7	26,966	-43.6					
15																	7	28,701	-45.1									

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

JUNE 1955

Standard pressure surface (mb)	OAKLAND, CALIF. (1015 MB.)				OKLAHOMA CITY, OKLA. (967 MB.)				OMAHA, NEBR. (966 MB.)				PHOENIX, ARIZ. (968 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	6	14.9	73	30	391	22.5	71	30	403	19.5	70	30	341	33.0	22
1,000--	30	131	14.1	73	30	101			30	100			30	48		
950----	30	573	14.9	60	30	552	23.6	62	30	548	20.0	62	30	518	33.4	
900----	30	1,023	15.7	44	30	1,020	20.8	60	30	1,009	17.3	61	30	997	29.5	
850----	30	1,507	14.7	36	30	1,513	17.8	60	30	1,495	14.0	64	30	1,501	24.8	18
800----	30	2,017	12.3	33	30	2,029	14.8	57	30	2,004	10.6	68	30	2,027	20.1	19
750----	30	2,564	9.4	33	30	2,578	11.8	47	30	2,548	7.7	60	30	2,582	15.3	22
700----	30	3,124	6.1	27	30	3,146	8.0	42	30	3,106	4.2	55	30	3,157	10.4	24
650----	30	3,732	2.4	25	30	3,757	3.6	44	29	3,710	.3	54	30	3,773	5.7	25
600----	30	4,369	- 1.5	25	30	4,397	- 1.0	44	29	4,342	- 3.8	50	30	4,418	1.1	
550----	30	5,058	- 6.2	26	30	5,085	- 5.8	45	29	5,022	- 8.4	44	30	5,113	- 3.8	
500----	30	5,795	-11.3		30	5,824	-10.9	45	29	5,756	-13.6	39	30	5,856	- 9.2	
450----	30	6,606	-17.2		30	6,637	-16.2	43	29	6,558	-19.4	34	30	6,671	-15.3	
400----	30	7,468	-23.7		30	7,502	-22.2	39	28	7,409	-25.6	34	30	7,540	-22.1	
350----	30	8,427	-31.8		30	8,468	-29.3	39	27	8,363	-33.0		30	8,507	-29.5	
300----	30	9,497	-40.6		30	9,549	-37.5		27	9,429	-40.8		30	9,587	-37.8	
250----	30	10,712	-50.1		30	10,781	-46.5		26	10,643	-49.1		29	10,819	-46.8	
200----	30	12,141	-58.3		30	12,228	-55.9		25	12,087	-56.1		28	12,274	-56.2	
175----	30	12,977	-59.7		30	13,070	-59.4		24	12,932	-56.8		28	13,114	-60.0	
150----	30	13,939	-60.4		30	14,027	-61.6		24	13,904	-57.8		28	14,068	-63.1	
125----	30	15,075	-60.8		29	15,151	-63.2		22	15,050	-58.7		28	15,182	-65.3	
100----	29	16,459	-62.2		23	16,511	-64.7		22	16,442	-60.8		28	16,537	-65.8	
80-----	28	17,841	-61.0		21	17,881	-61.6		21	17,830	-60.0		28	17,898	-63.4	
60-----	28	19,638	-58.8		20	19,673	-59.0		21	19,634	-57.9		28	19,678	-60.0	
50-----	27	20,783	-57.2		17	20,819	-57.1		21	20,787	-56.0		26	20,826	-57.8	
40-----	26	22,203	-54.8		16	22,242	-54.8		19	22,214	-53.5		19	22,260	-54.2	
30-----	21	24,057	-51.8		14	24,096	-52.1		15	24,090	-51.2		11	24,099	-51.7	
20-----	14	26,721	-48.3		9	26,761	-48.6		6	26,735	-47.3					
15-----	7	28,642	-46.4													

Standard pressure surface (mb)	PITTSBURGH, PA. (974 MB.)				PORTLAND, ME. (1010 MB.)				RAPID CITY, S. DAK. (904 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	353	18.0	67	29	20	14.5	88	30	966	16.2	69
1,000--	30	125			29	107			30	89		
950----	30	567	18.0	64	29	546	15.6	71	30	534		
900----	30	1,027	14.7	67	29	1,002	13.3	72	30	1,000		
850----	30	1,508	11.0	69	29	1,480	10.5	73	30	1,485	14.3	63
800----	30	2,011	7.7	69	29	1,983	7.3	74	30	1,994	11.0	68
750----	30	2,547	4.5	64	29	2,513	3.6	72	30	2,532	7.6	68
700----	30	3,099	1.5	59	29	3,067	.3	66	30	3,095	3.8	66
650----	30	3,696	- 1.5	47	29	3,660	- 2.7	56	30	3,693	- .1	61
600----	30	4,326	- 5.1	41	29	4,289	- 6.4	51	30	4,330	- 4.4	54
550----	30	5,006	- 9.4	38	28	4,965	-10.6	47	29	5,007	- 9.1	50
500----	30	5,734	-14.5		28	5,690	-15.4	44	29	5,740	-14.0	46
450----	30	6,532	-20.2	35	28	6,483	-21.1	40	29	6,534	-19.8	46
400----	30	7,387	-26.4	37	28	7,337	-27.4	42	28	7,392	-25.9	47
350----	30	8,336	-33.8		27	8,288	-34.7	46	28	8,344	-33.4	45
300----	30	9,398	-41.9		26	9,347	-42.8		28	9,407	-41.7	
250----	30	10,609	-49.8		26	10,555	-50.4		28	10,618	-50.4	
200----	29	12,048	-55.7		25	11,996	-54.7		28	12,048	-56.8	
175----	29	12,894	-57.4		25	12,848	-55.6		28	12,893	-57.1	
150----	29	13,868	-56.7		25	13,830	-55.0		28	13,868	-57.3	
125----	29	15,020	-57.8		23	14,996	-56.8		27	15,019	-57.6	
100----	28	16,419	-58.7		19	16,401	-57.7		24	16,419	-59.2	
80-----	25	17,815	-58.3		16	17,801	-57.7		21	17,814	-59.1	
60-----	22	19,628	-57.1		13	19,618	-57.3		20	19,619	-57.4	
50-----	22	20,782	-56.3		11	20,776	-55.6		14	20,768	-56.4	
40-----	21	22,204	-54.4		11	22,203	-53.8		11	22,188	-54.2	
30-----	18	24,062	-51.8		9	24,059	-51.2		7	24,043	-51.0	
20-----	6	26,707	-47.6									

Standard pressure surface (mb)	ST. CLOUD, MINN. (975 MB.)				SAN ANTONIO, TEX. (985 MB.)				SAN JUAN, P. R. (1015 MB.)				SANTA MARIA, CALIF. (1007 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	316	17.7	74	30	243	26.9	60	30	19	24.9	86	30	74	12.7	83
1,000--	30	100			30	105			30	150	25.3	78	30	129	12.2	83
950----	30	547	18.7	65	30	564	24.4	61	30	599	22.3	79	30	570	13.7	71
900----	30	1,005	15.5	67	30	1,033	21.3	68	30	1,070	19.5	77	30	1,019	17.2	41
850----	30	1,487	12.1	69	30	1,527	18.3	70	30	1,561	16.7	71	30	1,506	16.3	33
800----	30	1,993	8.8	69	30	2,045	15.8	61	30	2,076	14.3	62	30	2,019	13.5	31
750----	30	2,531	5.6	63	30	2,594	13.1	44	30	2,622	11.7	53	29	2,570	10.5	31
700----	30	3,086	2.8	52	30	3,168	9.6	40	30	3,194	8.7	45	29	3,131	7.4	26
650----	30	3,686	- .6	50	30	3,780	5.5	42	30	3,805	4.9	47	29	3,746	4.1	
600----	30	4,317	- 4.6	48	29	4,431	1.1	41	30	4,453	1.5	39	29	4,384	.4	
550----	30	4,998	- 9.0	45	29	5,126	- 3.5	43	30	5,149	- 2.1	33	29	5,080	- 4.0	
500----	30	5,728	-13.6	38	29	5,874	- 8.3	39	30	5,901	- 6.6	31	29	5,822	- 9.1	
450----	30	6,529	-19.3	34	29	6,691	-13.1		30	6,724	-11.9	31	29	6,638	-14.9	
400----	30	7,386	-25.7	35	29	7,571	-19.3		30	7,608	-18.0		29	7,507	-22.2	
350----	30	8,339	-33.1	33	29	8,548	-26.9		30	8,591	-25.4		29	8,473	-30.1	
300----	30	9,403	-41.4		29	9,640	-35.3		30	9,689	-34.3		29	9,551	-38.6	
250----	30	10,617	-49.5		29	10,882	-45.3		30	10,937	-44.5		29	10,777	-47.8	
200----	30	12,058	-54.6		29	12,335	-56.1		30	12,392	-56.7		29	12,220	-56.3	
175----	30	12,911	-54.6		29	13,173	-61.5		30	13,225	-63.4		29	13,062	-58.7	
150----	29	13,901	-55.2		28	14,114	-67.0		30	14,157	-70.1		29	14,024	-60.7	
125----	29	15,061	-56.6		28	15,202	-71.2		29	15,225	-75.0		29	15,154	-62.0	
100----	29	16,471	-57.9		23	16,515	-72.1		26	16,516	-75.3		29	16,526	-63.6	
80-----	27	17,879	-58.2		21	17,839	-68.2		25	17,821	-71.7		28	17,899	-61.6	
60-----	26	19,698	-56.1		16	19,586	-63.3		24	19,545	-64.5		23	19,691	-58.9	
50-----	22	20,862	-55.2		16	20,712	-60.9		24	20,668	-60.9		23	20,837	-57.4	
40-----	19	22,296	-53.0		16	22,110	-56.9		22	22,072	-57.8		19	22,259	-54.7	
30-----	15	24,176	-50.4		11	23,940	-53.7		21	23,900	-54.1		14	24,126	-51.4	
20-----	6	26,871	-46.5						8	26,541	-48.6					

Standard pressure surface (mb)	S. STE.MARIE, MICH. (988 MB.)				SPOKANE, WASH. (930 MB.)				SWAN ISLAND, W. I. (1012 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	221	14.8	78	30	722	20.7	34	30	10	27.3	80
1,000--	30	119			30	86			30	115	26.5	80
950----	30	560	17.2	63	30	538			30	567	23.2	81
900----	30	1,017	15.2	61	30	1,001	18.4	36	30	1,037	20.5	74
850----	30	1,499	12.1	64	30	1,487	14.0	42	30	1,530	17.9	67
800----	30	2,000	8.7	60	30	1,994	9.5	48	30	2,047	15.3	57
750----	30	2,538	5.2	60	30	2,530	5.2	52	30	2,596	12.4	48
700----	30	3,099	2.2	58	30	3,085	1.2	54	30	3,167	9.1	47
650----	30	3,693	- 1.2	48	30	3,686	- 2.3	47	30	3,783	5.6	42
600----	30	4,324	- 4.8	47	30	4,309	- 5.7	43	30	4,428	1.7	39
550----	30	5,001	- 9.1	43	30	4,992	- 9.9	44	30	5,125	- 2.3	33
500----	29	5,737	-13.7	42	30	5,714	-14.9	45	30	5,875	- 6.6	28
450----	29	6,537	-19.4	40	30	6,511	-20.6	46	30	6,699	-11.3	
400----	29	7,395	-25.9	39	30	7,363	-26.9	45	30	7,586	-16.9	
350----	29	8,346	-33.7		30	8,312	-34.2	44	29	8,573	-24.0	
300----	29	9,407	-42.3		30	9,371	-42.4		29	9,677	-32.6	
250----	28	10,620	-51.1		30	10,579	-51.0		29	10,934	-42.5	
200----	27	12,043	-56.1		30	12,008	-55.9		28	12,403	-54.2	
175----	25	12,883	-56.0		29	12,857	-54.7		25	13,245	-60.7	
150----	22	13,870	-55.1		29	13,843	-53.9		23	14,189	-67.6	
125----	19	15,033	-56.9		29	15,009	-55.5		21	15,265	-73.8	
100----	18	16,437	-57.4		29	16,428	-56.1		20	16,559	-76.0	
80-----	13	17,850	-57.8		27	17,849	-56.4		13	17,857	-71.9	
60-----	9	19,657	-56.6		23	19,684	-55.6		11	19,582	-65.1	
50-----	8	20,819	-55.0		23	20,847	-54.7		9	20,691	-61.8	
40-----	7	22,278	-52.5		20	22,282	-52.3		9	22,085	-57.3	
30-----					16	24,145	-49.9		8	23,918	-54.1	
20-----												

Standard pressure surface (mb)	TACUBAYA, MEXICO (773 MB.)				TAMPA, FLA. (1015 MB.)				TATOOSH ISLAND, WASH. (1014 MB.)				WASHINGTON, D. C. (1004 MB.)				YAKUTAT, ALASKA (1014 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	14	2,306	18.4		30	7	24.0	77	30	31	10.5	90	30	88	18.7	73	30	12	9.6	79
1,000--	14	38			30	136	24.6	74	30	151	11.1	84	30	124			30	129	8.5	78
950----	14	503			30	589	22.2	70	30	581	10.2	76	30	570	18.3	63	30	550	5.7	79
900----	14	979			30	1,054	19.4	65	30	1,028	9.0	68	30	1,027	14.9	66	30	992	3.2	76
850----	14	1,482			30	1,544	16.6	58	30	1,500	7.3	64	30	1,509	11.4	69	30	1,453	1.0	74
800----	14	2,017			30	2,058	13.5	55	30	1,997	5.2	63	30	2,013	8.0	71	30	1,938	- 1.5	72
750----	14	2,570	16.4		30	2,608	10.8	47	30	2,527	2.5	61	30	2,550	4.8	66	30	2,453	- 4.4	68
700----	14	3,151	12.1		30	3,171	7.7	44	30	3,076	- .6	59	30	3,102	1.6	60	30	2,991	- 7.0	64
650----	14	3,775	7.2		30	3,784	4.2	41	30	3,666	- 3.8	56	30	3,702	- 1.5	52	30	3,571	-10.0	60
600----	14	4,421	2.4		30	4,426	.7		30	4,294	- 7.3	54	30	4,329	- 4.9	42	30	4,178	-13.5	57
550----	13	5,122	- 2.2		30	5,122	- 3.2	36	30	4,966	-11.5	53	30	5,012	- 9.3	37	30	4,839	-17.4	54
500----	12	5,872	- 6.2		30	5,868	- 7.7	34	29	5,691	-16.1	51	30	5,738	-14.2	37	30	5,544	-22.0	53
450----	11	6,700	-10.6		30	6,690	-13.1		29	6,481	-21.3	45	30	6,537	-19.6		30	6,318	-27.4	51
400----	11	7,587	-16.3		30	7,566	-19.4	33	29	7,335	-27.5	41	30	7,393	-25.9		30	7,148	-33.4	46
350----	8	8,575	-23.1		30	8,544	-26.6		28	8,277	-34.8	44	30	8,345	-33.3		30	8,070	-40.9	
300----	[illegible]	9,680	-31.9		30	9,638	-34.9		28	9,334	-42.5		30	9,409	-41.3		30	9,103	-47.1	
250----	5	10,952	-42.2		30	10,883	-44.6		27	10,541	-50.4		30	10,623	-49.6		30	10,298	-49.8	
200----	5	12,421	-54.2		30	12,339	-55.8		27	11,978	-54.0		30	12,061	-55.9		30	11,760	-48.3	
175----					30	13,177	-61.3		27	12,836	-53.1		30	12,906	-57.7		30	12,640	-47.4	
150----					29	14,123	-66.5		27	13,828	-53.3		30	13,876	-58.0		30	13,658	-47.4	
125----					28	15,215	-69.5		26	15,001	-53.7		29	15,018	-58.8		30	14,860	-48.7	
100----					26	16,538	-69.8		26	16,430	-54.4		26	16,415	-60.0		30	16,326	-49.2	
80-----					22	17,874	-65.7		26	17,857	-54.5		25	17,807	-59.7		28	17,791	-49.7	
60-----					20	19,628	-62.0		26	19,702	-53.4		22	19,611	-58.1		26	19,667	-50.0	
50-----					19	20,764	-59.7		26	20,876	-52.7		21	20,764	-56.8		25	20,862	-49.4	
40-----					19	22,168	-56.6		25	22,322	-51.2		21	22,184	-54.4		25	22,327	-48.5	
30-----					14	24,006	-53.2		24	24,204	-48.5		18	24,046	-50.7		9	24,210	-48.0	
20-----					6	26,698	-47.6		13	26,892	-44.9		7	26,713	-47.7					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.
Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for February 1955

Standard pressure surface (mb)	DENVER, COLO. (830 MB.)				FT. WORTH, TEX (998 MB.)				OGDEN, UTAH (855 MB.)				RANTOUL, ILL. (994 MB.)				ROME, N. Y. (1003 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	27	1,661	- 4.4	56	28	178	9.9	58	28	1,450	- 4.6	62	28	227	- 1.4	74	28	146	- 5.4	73
1,000--	27	162			28	158			28	197			28	177			28	177		
950- --	27	582			28	585	8.9	55	28	610			28	587	- 1.8	73	28	580	- 5.1	74
900----	27	1,019			28	1,030	6.5	54	28	1,041			28	1,016	- 2.2	61	28	1,003	- 6.3	73
850----	27	1,474			28	1,497	4.9	49	28	1,495			28	1,469	- 2.7	51	28	1,449	- 7.4	73
800----	27	1,957	- 2.4	48	28	1,991	3.9	41	28	1,974	- 4.6	54	28	1,949	- 4.4	46	28	1,920	- 8.6	66
750- --	27	2,467	4.6	45	28	2,519	1.9	33	28	2,480	- 7.9	58	28	2,458	- 6.6	49	28	2,422	-10.5	60
700- -	27	3,007	- 8.4	43	28	3,066	- .7		28	3,011	-11.2	59	28	2,992	- 8.7	54	28	2,948	-11.9	54
650----	27	3,580	-12.7	46	28	3,656	- 4.2		28	3,581	-14.3	62	28	3,565	-11.8	52	28	3,518	-14.5	51
600- --	27	4,184	-16.7	49	28	4,280	- 8.4		28	4,179	-17.8	62	28	4,172	-15.2	47	28	4,115	-17.8	50
550----	27	4,836	-20.8	51	28	4,951	-13.1		28	4,828	-21.4	61	28	4,825	-19.4	43	28	4,761	-21.7	50
500----	27	5,531	-25.3	50	28	5,668	-18.0		28	5,521	-25.9	61	28	5,526	-23.8	46	28	5,455	-26.3	50
450- -	27	6,297	-30.7		28	6,454	-23.4		28	6,279	-30.9	62	28	6,291	-29.1		28	6,210	-31.3	
400 ---	27	7,114	-36.7		28	7,298	-29.6		28	7,101	-37.0		28	7,121	-34.7		28	7,033	-36.6	
350----	27	8,024	-43.5		28	8,237	-36.2		28	8,009	-44.0		28	8,039	-41.4		28	7,945	-42.7	
300-	26	9,047	-50.0		27	9,287	-44.0		28	9,025	-50.7		28	9,069	-48.5		28	8,969	-48.8	
250	26	10,224	-54.5		27	10,484	-53.3		28	10,196	-55.4		28	10,248	-55.1		28	10,150	-54.2	
200----	26	11,640	-56.6		27	11,896	-59.1		24	11,632	-58.0		28	11,661	-57.4		26	11,553	-55.6	
175----	26	12,486	-56.4		25	12,740	-58.7		22	12,465	-57.7		28	12,508	-55.8		26	12,405	-54.5	
150----	26	13,464	-56.4		24	13,706	-59.8		21	13,446	-56.3		28	13,487	-56.3		24	13,387	-54.9	
125----	26	14,617	-57.7		20	14,844	-63.0		19	14,594	-57.9		26	14,640	-58.1		24	14,548	-56.6	
100----	24	16,017	-60.0		12	16,180	-66.3		19	15,991	-60.0		25	16,035	-60.8		18	15,955	-58.5	
80-----	21	17,418	-61.5						18	17,377	-61.3		21	17,406	-62.4		13	17,363	-59.2	
60-----	11	19,173	-62.6						10	19,169	-60.8		12	19,163	-62.6		7	19,159	-60.8	
50-----	7	20,286	-63.5						7	20,312	-62.3		12	20,286	-62.9					
40----													11	21,666	-62.9					
30-----													8	23,447	-60.3					
20 ----													6	26,001	-55.8					

* March data for the above Air Force stations will be included in the July issue of this publication.

Note: All observations scheduled at 0300, G.C T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.) No. of observations	Direction	Speed	Albuquerque, N. Mex. (1,627 m.) No. of observations	Direction	Speed	Billings, Mont. (1,095 m.) No. of observations	Direction	Speed	Bismarck, N. Dak. (505 m.) No. of observations	Direction	Speed
Surface	30	155	4.0	30	224	3.0	30	360	1.3	30	337	[illegible]
500	--	---	--	--	-	---	--	-	---	--	---	---
1,000	30	159	5.6		---	-	--	-	-	29	314	.3
1,500	30	177	4.5		-	-	30	8	1.3	25	201	1.5
2,000	28	201	3.9	30	217	4.1	29	21	.8	22	209	2.8
2,500	26	225	4.0	30	229	3.9	29	279	1.4	17	230	4.5
3,000	24	241	4.5	30	248	4.5	24	269	3.9	16	244	5.7
4,000	18	256	5.3	29	275	7.2	15	270	8.2	12	232	6.0
5,000	18	272	6.1	28	279	8.7	10	276	10.6	12	228	6.8
6,000	16	290	8.0	27	278	9.7	10	270	11.9			
8,000	13	272	10.0	23	283	13.3						
10,000				20	275	16.8						
12,000				12	284	19.5						
14,000												
16,000												

Altitude (meters) m.s.l.	Boise, Idaho (868 m.) No. of observations	Direction	Speed	Brownsville, Tex. (7 m.) No. of observations	Direction	Speed	* Buffalo, N. Y. (182 m.) No. of observations	Direction	Speed	Burlington, Vt. (100 m.) No. of observations	Direction	Speed
Surface	29	[illegible]	[illegible]	[illegible]	[illegible]	7.3	30	211	[illegible]	26	303	1.6
500	--	---	--	30	136	7.0	30	272	3.1	28	296	1.5
1,000	29	320	3.8	24	147	6.7	30	287	3.6	27	333	2.5
1,500	29	318	[illegible]	20	158	4.1	30	286	3.9	26	338	3.4
2,000	29	293	2.3	17	161	2.8	29	302	2.8	23	325	3.5
2,500	28	282	[illegible]	18	184	2.1	29	308	2.9	20	311	4.5
3,000	28	266	3.5	14	134	2.0	29	334	3.2	18	315	4.2
4,000	25	262	5.4	12	[illegible]	2.1	28	336	3.3	11	300	4.5
5,000	24	264	5.6				28	342	4.1	10	303	4.7
6,000	25	265	7.7				28	352	5.5			
8,000	15	267	9.6				28	338	6.7			
10,000							28	332	7.6			
12,000							27	316	9.5			
14,000							26	325	6.5			
16,000							24	319	2.9			

Altitude (meters) m.s.l.	Charleston, S. C. (16 m.) No. of observations	Direction	Speed	Cincinnati, Ohio (273 m.) No. of observations	Direction	Speed	El Paso, Tex. (1,196 m.) No. of observations	Direction	Speed	Ely, Nev. (1,910 m.) No. of observations	Direction	Speed
Surface	30	192	2.1	[illegible]	234	1.3	30	251	1.6	30	147	2.1
500	30	198	2.0	28	215	1.4	--	---	--	--	---	--
1,000	30	239	2.3	27	239	1.1		-	-			-
1,500	27	287	3.5	26	256	1.5	30	244	4.0			
2,000	23	287	4.6	22	274	1.8	30	250	4.0	30	199	2.3
2,500	20	293	[illegible]	19	288	3.6	30	248	4.6	30	213	2.9
3,000	19	296	7.1	13	319	3.7	30	255	5.4	26	218	3.3
4,000	15	298	8.3				29	253	6.4	26	234	4.3
5,000	12	295	8.4				27	273	7.1	24	249	5.8
6,000							25	276	8.1	23	249	9.5
8,000							24	269	10.5	20	254	12.3
10,000							23	267	15.1	14	262	12.7
12,000							20	272	19.2			
14,000							16	277	15.4			
16,000							10	275	8.7			

Altitude (meters) m.s.l.	Grand Junction, Colo. (1,475 m.) No. of observations	Direction	Speed	Green Bay, Wis. (210 m.) No. of observations	Direction	Speed	Greensboro, N. C. (271 m.) No. of observations	Direction	Speed	Havre, Mont. (767 m.) No. of observations	Direction	Speed
Surface	30	246	2.8	30	195	1.4	30	357	0.3	30	311	0.5
500	--	---	-	30	202	2.3	30	266	.5	-	-	-
1,000	-	-	--	28	224	3.3	30	279	1.7	30	273	.9
1,500	30	247	2.9	25	218	3.8	28	290	2.7	30	242	1.4
2,000	30	256	3.4	22	223	2.8	27	295	4.0	28	205	1.6
2,500	30	239	3.2	16	275	3.0	23	311	4.5	26	204	1.9
3,000	30	240	4.1	15	271	2.7	19	310	4.8	24	225	2.8
4,000	29	253	5.5	11	330	3.5	16	303	6.6	16	229	2.5
5,000	27	265	7.2	11	346	4.2	11	314	10.3	13	290	5.1
6,000	24	265	10.5	10	349	5.2	10	332	11.6	10	251	7.6
8,000	20	288	13.9									
10,000	15	285	16.5									
12,000												
14,000												
16,000												

Altitude (meters) m.s.l.	Jacksonville, Fla. (16 m.) No. of observations	Direction	Speed	Little Rock, Ark. (88 m.) No. of observations	Direction	Speed	Medford, Ore. (416 m.) No. of observations	Direction	Speed	Miami, Fla. (12 m.) No. of observations	Direction	Speed
Surface	29	102	1.4	29	177	1.0	30	304	2.6	28	139	2.9
500	28	165	[illegible]	29	224	1.2	30	302	3.1	28	162	3.2
1,000	28	139	1.5	27	227	2.3	30	308	3.6	27	176	2.1
1,500	24	255	.8	26	239	2.8	30	312	2.6	26	228	1.9
2,000	20	263	4.6	16	259	2.6	28	303	.9	25	242	2.4
2,500	19	261	5.2	14	277	4.2	28	241	.8	23	252	2.4
3,000	17	279	5.8	14	293	5.3	25	308	.7	22	243	3.2
4,000	11	276	7.6				25	285	4.1	14	238	4.9
5,000							22	277	5.9	13	239	5.6
6,000							20	279	7.5	10	268	5.5
8,000							17	252	10.0			
10,000							15	258	10.0			
12,000												
14,000												
16,000												

Altitude (meters) m.s.l.	Mobile, Ala. (66 m.) No. of observations	Direction	Speed	Nashville, Tenn. (182 m.) No. of observations	Direction	Speed	** Oakland, Calif. (8 m.) No. of observations	Direction	Speed	Omaha, Nebr. (306 m.) No. of observations	Direction	Speed
Surface	30	215	1.4	29	309	1.3	30	269	5.7	30	177	1.1
500	29	232	1.6	29	298	1.9	30	277	4.8	30	177	1.2
1,000	28	272	2.6	27	281	1.8	30	283	3.5	29	182	2.7
1,500	21	290	3.4	27	285	2.3	30	280	2.6	24	191	3.2
2,000	19	308	3.2	25	279	2.4	30	292	2.7	21	239	3.6
2,500	15	331	2.8	22	295	3.7	30	288	2.7	21	263	5.3
3,000	12	336	3.6	19	301	3.7	30	285	2.2	17	266	6.7
4,000				15	305	5.5	30	279	4.0	12	282	8.0
5,000				11	300	7.7	30	278	5.1			
6,000							30	280	6.2			
8,000							30	273	8.7			
10,000							30	278	10.7			
12,000							30	270	11.9			
14,000							30	253	11.7			
16,000							29	246	6.5			

Altitude (meters) m.s.l.	Phoenix, Ariz. (345 m.) No. of observations	Direction	Speed	Rapid City, S. Dak. (982 m.) No. of observations	Direction	Speed	St. Cloud, Minn. (318 m.) No. of observations	Direction	Speed	San Antonio, Tex. (240 m.) No. of observations	Direction	Speed
Surface	30	258	1.9	29	287	0.5	29	212	1.2	30	147	3.4
500	30	258	2.7	--	---	--	29	237	1.3	30	147	4.4
1,000	30	248	3.5	29	285	.5	28	234	2.6	30	152	4.3
1,500	30	240	3.3	28	63	5	23	251	2.8	29	150	4.1
2,000	30	229	4.2	25	276	.8	21	247	3.9	28	171	2.9
2,500	30	221	5.6	21	284	3.7	15	246	4.6	26	199	1.8
3,000	30	226	7.1	20	275	4.7	12	250	6.1	25	229	1.7
4,000	27	245	7.7	11	267	7.4	10	279	7.0	22	313	2.9
5,000	26	252	7.4				10	280	7.4	20	325	3.9
6,000	23	259	8.3							19	293	5.6
8,000	21	262	10.3							12	281	11.4
10,000	15	274	11.4									
12,000												
14,000												
16,000												

Altitude (meters) m.s.l.	San Diego, Calif. (13 m.) No. of observations	Direction	Speed	# Sault Ste. Marie, Mich. (221 m.) No. of observations	Direction	Speed	Spokane, Wash. (725 m.) No. of observations	Direction	Speed	% Washington, D. C. (88 m.) No. of observations	Direction	Speed
Surface	29	261	3.6	30	267	2.8	30	219	2.1	30	320	1.2
500	26	271	2.8	30	282	3.4	--	---	--	30	326	2.1
1,000	23	298	1.8	30	270	3.0	30	221	2.5	30	300	2.3
1,500	23	292	1.5	30	286	2.4	30	227	2.8	30	298	3.5
2,000	23	252	1.3	30	287	2.0	28	230	3.1	30	303	4.3
2,500	23	268	2.4	30	291	2.1	23	232	3.5	30	304	4.5
3,000	22	260	3.5	30	294	1.9	22	236	4.0	30	303	5.4
4,000	21	255	5.3	30	306	1.9	19	254	5.3	30	294	6.6
5,000	20	254	5.8	30	309	2.4	17	245	7.6	30	305	7.6
6,000	17	249	7.5	30	317	2.8	14	267	9.1	30	291	8.8
8,000	16	259	9.4	29	329	3.6	11	282	13.4	30	294	10.9
10,000	13	257	12.8	29	359	5.4				30	283	12.4
12,000				29	328	4.2				28	270	16.4
14,000				28	332	4.4				28	275	14.7
16,000				25	16	2.4				24	280	6.5

* Rawin Data (Cont'd.)

18,000 m., 21 obs., 327 dir., 1.1 speed
20,000 m., 19 obs., 55 dir., 1.9 speed
22,000 m., 16 obs., 99 dir., 2.9 speed

** Rawin Data (Cont'd.)

18,000 m., 29 obs., 20 dir., 1.9 speed
20,000 m., 28 obs., 108 dir., 2.7 speed
22,000 m., 26 obs., 98 dir., 5.5 speed
24,000 m., 23 obs., 92 dir., [illegible] speed
26,000 m., 16 obs., 102 dir., 6.2 speed
28,000 m., 11 obs., 100 dir., 6.6 speed

Rawin Data (Cont'd.)

18,000 m., 17 obs., 96 dir., 1.1 speed
20,000 m., 12 obs., 89 dir., 3.2 speed

% Rawin Data (Cont'd.)

18,000 m., 21 obs., 250 dir., 1.8 speed
20,000 m., 20 obs., 97 dir., 1.4 speed
22,000 m., 20 obs., 81 dir., 2.5 speed
24,000 m., 17 obs., 78 dir., 5.4 speed
26,000 m., 11 obs., 89 dir., 7.7 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

Table [illegible]

RAWIN DATA

Average monthly resultant winds

Altitude (meters) m s l	Albuquerque, N. Mex. (1,635 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Barrow, Alaska (4 m.)			Bismarck, N. Dak. (50[illegible] m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)			El Paso, Tex. (1,195 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	172	1.5	30	[illegible]	3.0	29	206	2.3	30	30	1.4	30	14	1.0	30	124	5.6	30	217	0.6	30	215	1.4	30	290	0.2	30	164	1.2	30	185	1.7	30	243	3.0
500	-	-		30	157	3.0	29	173	2.1	30	32	.8	--	-		30	137	9.5	30	291	1.7	27	191	1.3	30	282	.8	29	198	3.4	30	141	2.8	--	---	----
1,000		-		30	134	[illegible]	29	175	2.6	30	331	.3	30	18	2.6	30	141	7.6	30	316	1.6	29	64	1.1	30	315	1.5	29	264	1.6	30	168	2.0	--	---	----
1,500	-	-	-	29	128	4.7	27	189	3.1	29	220	.3	30	332	1.7	30	142	4.8	30	319	1.8	29	46	1.8	30	343	1.9	30	280	2.8	30	232	1.3	30	259	3.4
2,000	30	237	3.0	29	150	4.4	29	195	4.1	29	219	1.0	30	[illegible]	[illegible]	30	133	3.0	29	303	2.6	29	20	1.9	30	354	2.7	30	275	4.3	30	279	2.6	30	263	4.9
2,500	30	257	4.6	29	164	3.5	29	204	4.7	29	221	1.5	29	300	2.9	30	118	1.7	29	303	2.3	29	342	1.7	30	345	3.3	29	267	5.3	30	294	3.6	30	267	5.6
3,000	29	267	5.9	29	165	[illegible]	29	218	6.0	28	208	1.7	28	290	2.9	30	37	.7	29	333	1.9	29	318	2.7	30	356	3.5	28	270	4.9	30	292	5.3	30	266	6.6
4,000	29	265	7.6	29	149	3.1	28	234	6.5	28	228	3.7	27	291	4.4	30	341	2.6	29	352	2.9	28	297	3.4	30	332	4.0	28	275	6.5	30	298	6.8	30	265	6.7
5,000	28	275	9.0	30	159	3.1	26	240	7.2	28	221	5.3	27	289	5.7	30	317	3.4	30	359	3.9	29	294	5.5	30	330	5.1	24	271	7.4	29	299	7.5	27	273	6.9
6,000	28	278	10.3	30	155	2.7	25	239	8.1	28	229	[illegible]	26	300	7.1	29	295	4.8	30	350	4.2	27	286	7.4	29	331	3.5	21	264	7.3	29	294	8.5	25	280	6.3
8,000	25	283	[illegible]	29	141	3.1	16	239	4.0	25	231	7.8	20	263	6.5	29	287	8.0	30	349	6.1	25	278	10.6	26	360	5.5	20	268	12.0	29	277	10.8	17	298	8.2
10,000	23	231	13.0	27	172	2.9	14	207	4.5	24	223	9.6	18	241	[illegible]	28	272	12.1	29	330	8.5	23	271	14.1	23	301	[illegible]	17	268	18.3	29	280	15.2	15	296	10.5
12,000	17	291	16.7	25	161	3.5	11	206	5.6	23	212	6.1	16	246	6.3	24	266	16.5	29	316	10.2	19	290	15.2	21	260	9.9	13	262	17.2	29	279	20.3	10	323	12.6
14,000	16	283	11.6	23	180	5.4	11	204	3.8	23	208	4.8	14	205	4.4	19	276	15.4	24	342	7.1	16	300	14.6	19	276	6.6	10	279	16.5	28	282	15.0			
16,000	10	278	9.3	21	161	3.7	11	225	2.5	23	198	3.2	11	253	1.1	10	304	5.0	21	327	3.8	12	307	8.3	17	285	7.3				27	294	6.2			
18,000				20	139	3.1	11	118	2.5	24	191	2.5	10	92	2.1				12	34	2.1	10	78	2.9	16	307	4.4				23	343	1.6			
20,000				15	103	1.3	11	97	3.3	24	141	2.0													14	353	2.4				20	69	3.4			
22,000				12	102	3.4	10	103	6.3	21	113	3.3													10	32	4.6				18	83	6.2			
24,000																															14	86	6.5			

Altitude (meters) m s l	Fairbanks, Alaska (135 m.)			Ft. Huachuca, Ariz. (1,428 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	234	1.9	30	233	3.5	30	343	0.9	30	217	[illegible]	30	221	1.8	30	109	0.6	30	195	[illegible]	30	320	4.9	30	132	1.1	30	133	3.1	30	231	1.5	30	194	0.4
500	29	254	2.2	-	-		-	-	---	30	226	.9	27	265	3.2	30	174	1.0	30	164	1.7	30	317	5.5	30	147	2.7	--			30	274	3.4	30	19	.3
1,000	29	257	2.1		-	-	--	---		30	264	1.9	28	275	4.1	30	216	2.0	30	197	2.0	30	317	6.1	30	146	3.0	30	144	4.9	30	306	3.0	30	269	1.4
1,500	29	236	2.2	30	245	4.7	30	342	.9	30	286	2.5	28	279	4.3	30	232	1.6	30	220	2.2	30	311	4.2	30	163	2.2	30	162	7.6	30	313	3.5	29	243	1.8
2,000	30	227	2.5	30	265	7.4	30	263	3.3	30	291	3.0	27	287	4.6	30	244	1.8	30	271	2.6	30	311	3.3	30	201	2.0	30	166	5.0	30	306	3.4	29	267	2.8
2,500	30	215	3.2	30	260	7.4	30	249	5.1	30	287	3.7	27	288	[illegible]	30	223	1.5	30	292	3.3	30	315	2.9	30	215	2.7	30	205	3.1	30	295	3.2	29	293	3.4
3,000	29	221	3.2	30	253	7.0	30	246	5.7	30	291	4.5	28	276	6.7	30	214	2.0	30	300	4.6	30	310	2.0	30	225	2.8	30	259	3.1	29	299	3.6	29	301	4.7
4,000	28	195	3.5	30	240	5.8	30	240	6.6	30	290	6.4	28	277	9.6	29	228	1.6	30	299	6.9	30	270	2.7	30	240	3.8	30	304	7.9	28	265	5.0	28	296	5.1
5,000	28	185	2.8	30	243	6.4	29	251	7.9	29	282	8.3	28	276	10.2	28	192	1.0	29	298	7.6	30	264	5.5	29	238	4.3	29	303	10.3	26	270	5.2	28	303	6.4
6,000	27	189	4.2	29	247	8.9	28	259	9.6	28	285	9.5	27	277	11.9	28	202	1.9	29	290	7.6	29	274	6.4	28	255	5.4	29	297	10.3	26	265	7.0	27	302	7.8
8,000	24	187	5.3	28	250	12.1	25	278	[illegible]	25	272	13.8	25	271	15.3	26	177	3.3	25	299	8.6	26	276	10.9	27	263	7.9	27	287	11.8	21	259	6.9	26	293	11.5
10,000	19	148	4.7	28	250	16.9	22	285	13.7	21	264	14.4	20	261	17.9	23	170	6.0	23	283	12.2	22	263	13.0	26	260	10.4	21	269	13.2	20	251	13.0	22	293	12.3
12,000	19	176	5.8	25	259	20.8	14	266	17.8	18	265	19.6	17	263	21.1	19	168	3.6	19	293	17.1	18	272	13.4	23	278	10.4	17	263	15.4	18	268	12.4	20	292	16.6
14,000	17	168	5.0				10	267	16.4	15	275	14.4	16	271	17.4	14	13	1.2	17	288	17.4	15	249	8.6	22	279	11.7	12	260	14.9	16	275	9.8	19	286	14.9
16,000	17	169	3.9										15	291	7.4	10	100	2.5	14	304	8.7	13	245	6.2	17	320	5.3				15	260	3.7	19	303	8.0
18,000	16	177	3.0										15	339	1.0							11	231	1.1	14	92	3.7				16	248	2.4	17	356	2.6
20,000	15	140	2.8										15	99	5.2							11	105	2.7	14	75	7.3				15	71	4.2	17	74	4.6
22,000	13	102	3.9										14	89	9.6										12	87	14.5				14	87	7.0	17	89	6.9
24,000	10	91	5.5										10	95	9.6																10	88	7.6	14	84	6.9

Altitude (meters) m s l	Nome, Alaska (7 m.)			Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul, Is., Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is., Wash. (31 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	211	2.3	30	273	4.6	30	151	4.0	30	341	1.1	30	112	0.6	30	240	1.6	30	126	4.1	30	115	2.2	30	297	4.5	30	278	1.1	30	221	1.6	30	204	2.2
500	30	191	1.0	30	284	5.5	28	152	5.1	--	--	---	30	122	1.2	30	241	3.7	30	124	7.1	29	109	7.5	30	320	4.4	30	276	2.3	--	---	----	30	239	3.1
1,000	30	160	1.8	30	281	5.3	28	172	6.5	30	345	1.3	30	192	1.8	28	253	3.7	30	141	6.8	29	107	8.2	30	326	5.2	30	278	2.4	30	231	3.0	30	242	2.7
1,500	30	147	2.9	30	287	3.7	27	198	5.1	30	329	2.4	30	219	2.1	28	265	4.0	30	158	4.0	30	104	7.8	29	357	3.8	30	272	2.0	30	241	3.9	30	252	3.4
2,000	30	143	3.2	30	312	2.7	26	237	4.2	30	317	2.5	30	251	2.6	28	271	4.5	30	206	2.7	30	99	7.6	29	11	3.0	30	273	1.4	30	242	4.1	30	256	3.7
2,500	29	156	3.8	30	316	2.4	27	266	4.8	30	300	2.3	30	259	2.7	28	279	5.6	30	235	3.0	30	103	7.0	28	346	3.2	30	308	1.4	30	246	4.6	30	261	4.3
3,000	29	152	3.7	30	320	2.3	29	274	6.0	30	291	3.3	30	268	2.5	28	277	6.2	30	261	2.4	30	102	6.1	28	318	3.6	30	323	.7	30	257	5.1	30	267	5.9
4,000	29	166	4.3	30	301	2.8	29	281	7.2	30	295	4.7	29	281	2.3	29	275	7.2	29	319	4.3	30	99	5.3	28	289	5.0	30	277	.9	30	270	5.2	30	263	7.5
5,000	29	154	4.6	30	303	4.8	30	290	8.9	28	299	7.2	29	249	2.1	29	278	8.3	29	316	5.5	30	97	4.6	28	266	5.2	30	315	1.8	30	256	6.3	29	264	8.2
6,000	29	154	4.8	30	291	6.1	29	294	9.5	28	294	7.7	29	222	2.5	27	275	8.3	29	298	6.9	30	98	4.4	28	266	6.2	29	321	2.1	30	261	8.2	28	265	10.4
8,000	26	156	9.7	30	288	7.9	27	287	12.4	28	293	9.7	28	205	3.3	25	266	7.4	29	285	10.4	29	132	1.9	26	255	7.8	29	338	2.1	29	269	10.3	25	265	13.5
10,000	25	177	7.3	30	287	10.6	26	279	17.2	28	276	13.0	27	249	4.7	19	252	8.7	28	280	15.5	29	265	.4	26	245	9.2	28	335	2.7	27	268	10.9	25	263	16.3
12,000	20	180	4.2	30	274	12.3	24	271	20.8	28	268	12.9	27	256	8.3	17	253	6.9	28	273	19.1	29	299	2.7	26	249	13.2	27	343	4.9	26	267	9.6	24	264	13.0
14,000	20	180	4.2	30	259	10.0	21	270	18.0	27	279	8.3	26	276	5.0	16	209	5.6	25	271	15.7	28	299	7.2	26	249	13.9	21	322	5.8	25	246	6.9	22	240	8.0
16,000	19	183	2.9	30	249	6.3	16	274	7.9	24	279	3.4	27	298	1.3	14	199	3.5	23	273	6.4	25	338	1.7	26	250	6.5	18	355	3.8	26	220	3.6	22	219	4.3
18,000	19	164	3.1	28	161	.4	14	212	1.1	21	94	1.1	26	35	1.8	14	184	3.5	20	74	1.4	21	79	4.7	24	19	.4	12	43	2.7	25	151	1.8	23	161	2.6
20,000	19	121	4.2	28	85	3.1	11	80	4.3	17	101	4.2	24	85	2.8	13	162	2.4	14	85	8.9	21	85	10.3	21	75	4.8				23	104	4.0	23	111	4.2
22,000	17	111	5.0	25	82	6.2	10	85	7.3	10	92	5.8	19	82	5.2	11	101	4.1	14	91	11.8	20	90	14.7	17	87	8.2				20	90	5.6	23	103	5.9
24,000	15	99	6.2	18	88	6.7							10	79	5.4				10	86	12.5	18	94	14.9	10	82	9.8				13	94	7.3	23	94	7.2
26,000				14	83	8.0																												14	91	7.6

Altitude (meters) m s l	Washington, D. C. (88 m.)			Yakutat, Alaska (12 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	261	0.4	29	210	1.3
500	30	312	2.6	29	141	2.5
1,000	30	327	3.6	28	145	2.9
1,500	30	330	3.5	28	152	2.6
2,000	30	327	2.8	28	166	2.2
2,500	30	304	3.3	28	166	1.9
3,000	30	304	3.4	28	189	2.4
4,000	30	301	5.5	28	208	2.0
5,000	30	303	7.1	27	220	3.8
6,000	30	301	7.9	28	220	3.6
8,000	30	290	10.7	27	247	4.2
10,000	30	284	14.8	27	252	4.4
12,000	30	278	16.9	25	212	6.5
14,000	29	281	13.8	24	221	4.2
16,000	26	279	7.0	24	201	3.3
18,000	25	304	1.5	20	196	2.6
20,000	12	73	2.4	20	134	1.5
22,000	20	91	5.7	18	102	4.6
24,000	18	92	7.2			
26,000	10	84	7.2			

These free-air resultant winds are based on rawin observations made near 0300 G. C. T., directions in degrees from north (N - 360°, E - 90°, S - 180°, W - 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for February 1955

Altitude (meters) m.s.l.	Denver, Colo. (1,661 m.) No. of observations	Direction	Speed	Ft. Worth, Tex. (178 m.) No. of observations	Direction	Speed	Ogden, Utah (1,450 m.) No. of observations	Direction	Speed	Rantoul, Ill. (227 m.) No. of observations	Direction	Speed	Rome, N. Y. ([illegible] m.) No. of observations	Direction	Speed
Surface	27	132	0.9	28	161	0.8	28	96	1.3	28	171	0.9	27	[illegible]	[illegible]
500	-	-	----	28	180	4.1	-	-	---	28	205	3.7	27	240	1.8
1,000	--	---	----	28	202	5.9	--	---	-	28	222	[illegible]	25	256	[illegible]
1,500	-	- -	- --	28	227	7.0	28	121	1.1	28	251	6.3	25	263	[illegible]
2,000	26	297	1.6	28	249	8.5	28	235	2.7	28	258	7.8	25	[illegible]	9.2
2,500	26	301	4.3	28	257	9.5	28	259	4.8	[illegible]	[illegible]	10.1	25	279	11.2
3,000	26	296	5.8	28	262	12.4	28	261	6.2	26	259	11.9	26	267	12.4
4,000	27	288	9.3	28	263	16.2	28	293	9.5	26	255	[illegible]	26	269	15.1
5,000	27	291	12.4	28	259	20.4	28	302	12.3	27	257	16.4	26	[illegible]	18.9
6,000	27	295	13.6	28	257	24.2	28	[illegible]	15.1	27	256	[illegible]	26	[illegible]	[illegible]
8,000	27	293	17.7	28	256	29.6	28	[illegible]	18.6	27	259	31.4	25	[illegible]	30.3
10,000	26	286	22.5	27	257	37.5	27	296	24.2	27	262	37.5	[illegible]	271	[illegible]
12,000	24	275	23.4	27	251	43.2	22	291	25.1	24	269	35.7	20	274	[illegible]
14,000	23	269	22.6	22	255	38.1	18	292	20.7	23	268	33.2	19	272	29.4
16,000	21	269	19.6	14	259	33.0	17	290	18.4	21	271	[illegible]	15	274	21.6
18,000	14	267	13.8				13	301	12.5	15	270	[illegible]			
20,000										10	265	17.6			

* March data for the above Air Force stations will be included in the July issue of this publication

These free-air resultant winds are based on rawin observations made near [illegible] G.C.T., directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1955 issue of the CLIMATOLOGICAL DATA, National Summary.

CORRECTIONS

	Month: Annual 1954
page 100: Aklavik, MacKenzie	The January amount should be 5.
	Month: November 1954 - May 1955
page 435: Columbus, Ohio	Corrected solar radiation data for this period are listed on page 227.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. JUNE 1955

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	0.0°	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.08	3.26	2.44	1.63	N	1.63	2.44	3.26	4.08
June									
2	0.85	0.92	1.03	1.17	1.36	----	----	----	----
3	.79	.87	.99	1.14	1.35	1.15	1.01	0.88	0.79
6	.85	.95	1.06	1.22	1.38	1.21	1.04	.97	.90
7	.93	1.01	1.12	1.26	1.41	1.26	1.10	1.00	.94
8	.91	.98	1.09	1.23	1.38	1.19	1.06	.95	----
9	----	D.40	D.54	D.70	D1.04	----	----	----	----
10	D.52	D.59	D.77	D.94	D1.27	----	----	----	----
12	.58	.67	----	----	----	----	----	----	----
14	.70	.76	.85	1.00	----	----	D.80	D.68	D.49
15	.63	.73	.90	1.09	1.36	1.20	1.08	.98	.94
16	.85	.92	1.03	1.19	1.39	----	----	----	----
17	.81	.89	1.03	1.20	1.39	1.18	1.04	.87	.80
18	.79	.82	1.00	1.04	1.32	1.15	1.00	.87	.81
19	.75	.83	.96	1.10	1.34	1.14	.99	.85	.76
20	D.49	D.59	.73	.95	1.23	1.04	.82	----	----
21	.38	.48	.64	.80	1.19	----	----	----	----
22	.63	.72	.85	1.04	1.27	----	----	----	----
25	----	----	.94	1.12	1.30	----	----	----	----
26	.76	.83	.99	1.13	----	----	----	----	----
27	.43	.53	.64	----	----	----	----	----	----
28	----	----	----	.96	1.26	1.04	.88	.76	.69
29	.77	.87	.97	1.15	1.30	1.08	.96	.78	.69
30	.85	.93	1.06	1.21	1.38	1.18	1.04	.93	.85
Averages	.71	.78	.91	1.08	1.31	1.15	.99	.88	.79

MADISON, WIS.

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	0.0°	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.81	3.84	2.88	1.92	N	1.92	2.88	3.84	4.81
June									
1	0.64	----	----	----	----	----	----	----	----
14	----	0.83	0.96	1.15	1.32	----	----	----	----
15	----	----	.97	1.12	1.37	----	----	----	----
16	.73	.83	.96	1.15	1.36	0.96	0.70	0.52	0.41
20	----	----	.94	1.10	----	----	----	----	----
21	.86	.99	1.11	1.25	1.39	----	----	----	----
22	.83	.94	1.06	1.28	1.47	1.17	1.00	----	----
26	----	----	----	----	1.38	1.02	.80	.66	.55
27	----	.73	.88	1.06	1.29	----	----	----	----
28	.63	.75	.88	1.01	1.03	----	----	----	----
Averages	.74	.85	.97	1.14	1.33	1.05	.83	.59	.48

LINCOLN, NEBR.

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	0.0°	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.77	3.81	2.86	1.91	*0.95	1.91	2.86	3.81	4.77

No Data during June 1955

TABLE MOUNTAIN, CALIF.

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	0.0°	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	3.76	3.01	2.26	1.51	N	1.51	2.26	3.01	3.76
June									
20	----	----	----	1.45	----	----	----	----	----
24	----	----	----	1.37	----	----	----	----	----
29	----	----	----	1.39	----	----	----	----	----
Averages	----	----	----	1.40	----	----	----	----	----

WASHINGTON, D.C. (WBCO)

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	0.0°	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.95	3.96	2.97	1.98	N	1.98	2.97	3.96	4.95
June									
6	----	----	----	0.98	----	----	----	----	----
12	----	----	----	1.09	1.31	----	----	----	----
13#	----	----	----	.89	----	----	----	----	----
15	----	----	----	.66	----	----	----	----	----
16	----	----	----	----	----	1.01	----	----	----
17	----	----	----	1.00	----	----	----	----	----
22	----	----	----	.76	----	----	----	----	----
27	----	----	----	.61	----	----	----	----	----
28	----	----	----	.91	----	----	----	----	----
29	----	----	----	.90	----	----	----	----	----
30	----	----	----	.67	1.23	----	----	----	----
Averages	----	----	----	.85	1.27	----	----	----	----

BLUE HILL, MASS.

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	0.0°	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
June									
15**	0.31	0.59	0.73	0.90	----	----	0.77	0.67	0.60
17	----	.71	.86	1.04	----	0.99	.90	----	----
18	.53	.62	.74	.92	----	.87	----	.58	.50
21	.20	.25	.40	.53	----	----	----	----	----
23	----	----	.73	.96	----	----	----	----	----
25	.40	.48	.61	----	----	----	----	----	----
28	----	----	.51	.71	----	.73	.53	----	----
29	.55	.66	.79	.94	----	----	----	----	----
Averages	.40	.55	.67	.86	----	.89	.73	.63	.55

N Solar Noon
Sky milky from 13th
* Extrapolated
** Haze and smoke most of the month
D Dust

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of Tables 30 and 31 and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the Monthly Weather Review, vol. 72, No. 1, January 1944, p. 43. A list of pyrheliometric stations is given on page 45 of that issue. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	4	5	6	7	8	9	10		11	12	13	14	15	16	17		18	19	20	21	22	23	24	
Langleys	108	124	161	105	71	126	162	122	171	66	127	184	184	174	180	155	180	165	128	156	133	155	105	146
Date	25	26	27	28	29	30	1																	
Langleys	177	174	149	169	172	177	180	171																

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	4	5	6	7	8	9	10		11	12	13	14	15	16	17		18	19	20	21	22	23	24	
Langleys	131	134	338	90	75	112	302	180	317	64	227	392	369	335	396	306	373	279	128	319	237	307	116	251
Date	25	26	27	28	29	30	1																	
Langleys	314	279	278	349	401	364	292	325																

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	4	5	6	7	8	9	10		11	12	13	14	15	16	17		18	19	20	21	22	23	24	
Langleys	131	168	251	103	93	146	245	163	196	83	194	189	261	253	256	204	254	228	204	240	240	242	134	220
Date	25	26	27	28	29	30	1																	
Langleys	242	237	184	237	240	245	234	231																

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	4	5	6	7	8	9	10		11	12	13	14	15	16	17		18	19	20	21	22	23	24	
Langleys	121	190	348	177	83	159	340	203	168	75	232	216	439	373	401	272	418	201	321	185	260	314	158	265
Date	25	26	27	28	29	30	1																	
Langleys	246	341	193	349	391	305	391	317																

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	4	5	6	7	8	9	10		11	12	13	14	15	16	17		18	19	20	21	22	23	24	
Langleys	222	268	230	171	135	224	226	211	280	118	253	282	175	229	141	211	166	350	248	279	264	242	225	253
Date	25	26	27	28	29	30	1																	
Langleys	324	319	280	233	190	251	294	270																

Note: Langley is the unit used to denote one gram calorie per square centimeter

NET RADIATION

e 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

. . . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	**25	26	27	28	29	30	31	Avg.
.eys. . .	360	369	337	*326	391	355	*273	294	238	*318	*200	361	277	241	271	*310	352	*69	*117	*320	308	*305	*260	350	*286	%	164	%	262	336		288

measurement is made with a Beckman and Whitley net exchange radiometer over a of alfalfa. The value represents the total incoming minus the total outgoing tion of all wave lengths.

These data are of an experimental nature and are published as received from the North Carolina State College at Raleigh. The instrument with which they were measured has not been checked by the Weather Bureau.

imated values owing to occurrence of rain during period While rain is falling
iation is assumed to be zero.
iometer inoperative.
falfa mowed.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys

1955	Aklavik, Mackenzie	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.
June 4-----	333	608	673	746	392	691	526	552	495	232	700	186	535
June 5-----	257	787	482	729	407	607	523	273	431	289	744	224	411
June 6-----	608	831	849	666	708	507	549	109	763	641	754	625	583
June 7-----	640	841	463	694	764	468	659	222	271	183	746	183	633
June 8-----	757	839	271	717	741	613	757	546	342	136	752	96	692
June 9-----	(681)	779	556	(758)	624	666	614	251	172	242	756	228	695
June 10-----	(733)	801	746	(682)	354	154	574	358	210	619	761	648	528
Averages------	(573)	784	577	(713)	570	529	600	330	383	334	745	313	582
June 11-----	406	765	839	727	696	664	355	319	212	406	749	395	694
June 12-----	706	612	301	776	256	574	309	124	648	118	545	137	707
June 13-----	412	559	711	685	360	668	450	275	839	419	573	504	723
June 14-----	493	736	803	652	484	269	473	429	750	414	565	398	---
June 15-----	406	835	123	583	697	516	178	359	788	715	509	671	610
June 16-----	133	806	163	360	403	642	402	390	713	623	783	560	710
June 17-----	312	855	204	290	274	634	648	674	275	723	661	712	678
Averages------	410	738	449	582	453	567	402	367	603	488	626	483	687
June 18-----	403	841	415	469	407	565	702	545	760	699	752	681	575
June 19-----	275	838	749	490	626	393	621	147	793	477	747	445	726
June 20-----	434	816	845	650	710	650	633	199	797	438	718	394	699
June 21-----	488	823	828	701	673	606	703	226	609	503	722	384	496
June 22-----	688	789	787	660	336	688	487	315	773	543	754	498	---
June 23-----	254	719	672	385	595	469	493	---	761	682	746	626	640
June 24-----	682	755	303	161	413	474	449	281	634	268	637	213	721
Averages------	461	797	657	502	537	549	584	285	732	516	725	463	643
June 25-----	(658)	827	335	722	272	546	470	252	622	531	681	521	643
June 26-----	681	784	527	562	263	673	138	568	601	544	582	471	649
June 27-----	(686)	705	280	565	155	584	628	289	468	389	749	417	694
June 28-----	---	822	349	601	319	587	610	398	765	589	286	569	660
June 29-----	189	843	292	693	357	687	334	248	707	646	449	619	602
June 30-----	157	844	597	484	384	723	293	(222)	732	600	600	562	676
July 1-----	---	842	365	740	561	663	422	598	561	558	727	536	655
Averages------	474	810	392	624	330	638	413	(368)	636	551	582	528	654

1955	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Columbus, Ohio	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	East Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.
June 4-----	589	350	619	---	601	522	727	623	663	335	455	821	638
June 5-----	516	306	686	---	504	700	747	817	634	461	787	755	801
June 6-----	608	669	571	---	472	501	732	817	345	605	596	814	806
June 7-----	---	713	592	---	531	141	730	733	175	382	377	809	722
June 8-----	---	762	682	---	721	342	722	786	365	153	700	800	769
June 9-----	435	717	740	---	743	455	736	703	373	219	791	640	799
June 10-----	549	404	519	---	177	229	657	457	459	706	780	650	480
Averages------	539	560	630	---	536	413	721	705	431	409	641	756	717
June 11-----	549	498	513	---	104	606	721	600	347	412	782	739	807
June 12-----	574	430	763	---	198	489	679	751	207	236	781	558	829
June 13-----	547	160	730	---	510	127	666	338	144	656	655	688	736
June 14-----	569	382	(534)	---	727	507	706	475	524	608	702	800	684
June 15-----	578	771	230	---	643	736	693	524	768	679	608	814	718
June 16-----	572	675	648	---	717	734	741	387	752	746	763	797	490
June 17-----	550	664	343	---	643	643	736	181	679	768	616	847	590
Averages------	563	511	(537)	---	506	549	706	465	489	586	701	749	693
June 18-----	---	660	296	---	490	585	783	---	696	752	352	827	844
June 19-----	588	656	390	---	459	595	754	843	563	---	534	802	815
June 20-----	579	639	576	---	708	482	788	852	461	453	609	781	---
June 21-----	542	373	509	---	619	569	792	831	694	648	752	756	823
June 22-----	442	277	510	---	480	657	801	731	729	666	764	799	615
June 23-----	401	518	593	---	671	454	789	---	653	728	679	767	734
June 24-----	403	437	505	---	143	672	753	670	519	253	765	699	811
Averages------	492	509	483	---	510	574	780	785	617	583	637	776	774
June 25-----	427	507	598	---	419	163	766	205	619	547	533	---	619
June 26-----	565	305	672	---	633	599	688	422	636	574	715	549	708
June 27-----	565	719	306	---	553	743	758	575	697	613	742	742	751
June 28-----	580	648	658	---	665	667	681	650	709	670	632	808	779
June 29-----	578	660	683	740	604	669	798	699	477	692	228	813	842
June 30-----	563	496	761	230	647	654	768	796	401	679	459	832	825
July 1-----	524	667	771	728	716	666	757	862	566	599	733	802	822
Averages------	543	572	636	---	605	595	745	602	586	625	577	758	764

1955	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grandby, Colo.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.
June 4-----	434	617	723	626	---	311	686	537	515	704	847	637	806	680
June 5-----	267	348	737	622	479	103	756	289	742	658	818	559	---	735
June 6-----	598	722	734	489	699	353	838	654	571	532	736	236	---	761
June 7-----	724	585	733	519	637	692	822	579	471	615	398	285	819	673
June 8-----	497	440	723	537	510	599	791	770	496	754	793	217	839	424
June 9-----	621	231	713	696	325	557	867	788	386	719	441	278	834	247
June 10-----	370	732	744	570	670	493	853	790	403	251	763	94	837	593
Averages------	502	525	730	580	553	444	802	630	512	605	685	329	827	587
June 11-----	285	772	734	386	399	706	833	788	439	605	592	384	---	150
June 12-----	168	730	727	720	733	307	820	790	667	648	860	178	794	551
June 13-----	505	712	727	645	710	680	620	732	627	757	804	137	817	88
June 14-----	571	738	730	---	688	161	420	626	598	300	634	549	845	284
June 15-----	589	525	758	---	336	251	766	623	652	443	790	616	869	798
June 16-----	312	620	756	274	363	483	638	241	714	441	797	657	864	791
June 17-----	770	471	764	510	451	438	846	736	645	701	798	608	855	774
Averages------	457	653	742	507	526	432	706	648	620	556	754	447	841	491
June 18-----	460	629	776	538	721	592	750	645	273	468	174	626	870	681
June 19-----	359	437	774	600	763	708	837	784	357	498	255	571	882	528
June 20-----	244	634	773	658	792	483	816	776	670	598	583	463	875	701
June 21-----	---	693	765	670	769	418	841	751	671	647	652	---	880	440
June 22-----	461	589	771	604	797	693	774	728	648	700	666	591	874	611
June 23-----	700	729	788	465	714	495	728	688	544	483	552	709	879	496
June 24-----	522	715	726	247	778	628	682	245	691	561	608	459	844	524
Averages------	458	632	768	540	762	574	775	660	551	565	499	570	872	569
June 25-----	507	713	763	620	600	537	611	676	536	633	663	368	730	460
June 26-----	351	706	769	559	474	673	815	631	729	624	206	738	868	617
June 27-----	583	716	767	340	696	803	668	726	532	520	689	---	869	616
June 28-----	646	666	757	336	734	---	844	625	640	620	788	---	848	792
June 29-----	59	712	765	527	712	670	789	139	636	704	769	661	851	691
June 30-----	444	652	767	591	---	678	861	702	607	763	763	654	844	442
July 1-----	626	701	777	---	618	737	778	588	612	688	733	640	844	603
Averages------	459	695	767	496	639	683	766	584	613	650	659	612	836	603

Note.--Langley is the unit used to denote one gram calorie per square centimeter. Values in parentheses are interpolated.

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys -Continued

	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lincoln, Nebr.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Bayville, N. Y.	Schenectady, N. Y.	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Toronto, Ontario	Upton, N. Y.	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
1955																																								
June 4-----	632	782	738	567	659	445	640	677	482	511	827	733	703	560	361	462	623	742	776	236	634	713	736	567	508	768	693	544	319	213	329	779	722	657	733	713	614	545	657	200
June 5-----	688	499	753	634	309	355	559	645	626	325	835	746	679	554	380	485	671	668	794	236	433	704	753	273	680	791	663	550	513	320	330	752	687	434	682	717	498	504	739	673
June 6-----	628	818	749	106	529	582	390	(558)	239	655	836	631	698	358	608	710	434	728	800	658	800	735	669	225	727	679	470	726	643	710	733	825	685	687	683	711	694	690	718	226
June 7-----	657	837	752	331	743	751	303	518	235	729	---	664	689	454	199	264	294	719	794	413	794	747	682	536	676	741	153	242	532	735	762	809	95	569	688	627	537	207	272	598
June 8-----	531	324	748	404	463	496	343	686	131	428	720	664	635	149	180	302	77	780	781	291	628	733	746	276	706	625	664	291	428	722	748	821	5	164	(735)	705	555	252	---	291
June 9-----	293	697	737	161	456	144	179	451	97	604	699	692	413	503	239	84	372	773	766	675	198	691	706	204	565	341	713	149	475	712	733	790	172	488	633	727	675	142	107	173
June 10-----	471	831	711	188	534	564	431	252	393	148	652	558	656	116	753	737	72	644	782	617	161	737	660	370	544	349	430	821	591	723	750	835	529	441	616	683	691	781	450	205
Averages------	557	684	741	342	527	477	406	(541)	315	486	761	670	639	385	389	435	363	722	785	447	521	723	707	350	629	613	541	475	500	591	626	802	414	491	(681)	698	609	446	491	338
June 11-----	764	754	760	405	76	715	667	597	104	224	633	68	622	479	315	118	506	554	782	453	398	725	764	96	762	165	669	174	234	718	751	803	73	582	676	261	247	190	179	677
June 12-----	744	489	736	79	203	455	488	597	133	302	751	127	616	370	216	270	355	111	---	49	225	732	700	413	738	453	442	334	146	328	429	776	375	720	687	748	481	308	663	807
June 13-----	722	747	442	118	618	592	285	215	288	164	725	476	---	302	651	413	254	337	---	374	308	677	198	684	756	141	644	523	249	304	410	767	205	533	700	765	232	558	519	793
June 14-----	685	324	783	640	723	396	435	199	722	683	494	635	649	599	432	331	536	507	---	424	729	502	564	760	551	(470)	784	567	193	365	501	462	104	517	573	743	534	584	405	787
June 15-----	553	648	805	662	641	123	633	414	778	506	682	527	698	686	677	751	607	761	804	646	639	730	541	771	667	806	786	772	614	114	520	694	695	572	(677)	603	767	743	558	690
June 16-----	647	582	796	717	227	644	663	612	761	764	750	341	664	647	708	758	713	721	(819)	592	520	649	677	755	724	803	786	795	516	435	473	825	722	665	695	294	694	741	717	740
June 17-----	721	825	797	708	370	673	753	713	712	481	739	273	686	683	738	744	690	729	830	723	199	610	758	382	737	803	755	---	535	283	396	543	679	334	597	382	714	753	672	551
Averages------	691	624	731	476	408	514	561	478	499	446	682	350	656	538	534	484	523	531	(809)	466	431	661	600	552	705	(520)	695	528	355	407	497	696	407	561	(658)	542	524	554	530	721
June 18-----	688	723	809	683	592	548	683	750	709	701	740	297	693	604	727	746	663	742	821	704	436	665	760	412	644	829	710	797	586	291	469	668	554	687	553	557	712	755	615	298
June 19-----	702	786	797	594	719	680	687	661	403	609	772	455	480	695	412	261	564	494	820	560	665	718	772	732	700	656	679	371	490	663	643	809	308	526	535	741	353	788	134	329
June 20-----	628	686	810	713	677	562	609	641	764	198	758	(575)	720	515	473	747	619	602	820	378	733	727	735	769	537	762	632	668	435	682	682	786	607	758	552	700	492	646	710	590
June 21-----	631	828	807	804	472	694	742	748	757	312	744	346	721	646	586	488	649	447	797	190	473	716	779	772	718	741	691	521	388	697	721	762	577	696	668	647	522	497	532	654
June 22-----	645	813	750	560	535	650	734	724	798	343	532	357	565	681	654	550	599	530	781	170	730	608	773	661	696	700	162	746	540	118	238	636	648	387	670	671	527	---	594	715
June 23-----	652	741	823	773	431	678	741	731	680	380	548	690	717	---	692	682	333	192	724	632	561	631	754	691	667	819	211	773	583	548	735	480	403	745	537	583	346	737	693	611
June 24-----	675	693	797	613	258	548	700	688	711	244	632	640	742	615	(269)	228	549	405	796	315	384	716	740	689	727	802	424	265	246	312	629	189	304	669	674	705	547	267	334	676
Averages------	661	753	799	677	526	623	699	706	689	400	675	(480)	663	626	(545)	529	568	487	794	464	569	683	759	675	670	758	501	591	467	473	588	616	528	680	620	658	500	548	559	596
June 25-----	731	608	783	725	622	495	261	265	645	147	---	424	573	431	508	416	188	542	817	584	520	523	532	414	719	715	482	535	446	301	509	608	279	653	597	724	573	---	258	772
June 26-----	746	574	809	623	678	313	339	232	761	282	647	300	662	527	607	716	591	615	813	477	314	548	541	715	577	654	800	637	467	---	341	487	485	685	706	502	688	655	606	758
June 27-----	711	564	799	744	378	164	598	503	741	294	683	665	575	628	636	499	710	727	807	597	564	713	735	728	652	731	742	557	533	---	293	631	585	504	638	520	707	576	551	(481)
June 28-----	368	712	808	755	288	651	463	453	724	209	284	528	534	644	625	723	695	704	812	666	660	373	616	390	637	623	722	647	565	311	567	324	700	566	637	372	701	650	700	478
June 29-----	468	825	779	574	699	601	373	358	446	317	777	571	654	587	698	729	624	627	813	695	764	646	443	628	594	789	---	750	595	422	420	737	646	684	589	524	578	740	693	758
June 30-----	---	773	803	587	594	566	458	261	639	470	731	451	665	683	642	486	631	498	809	583	778	490	600	684	677	(798)	594	601	460	275	332	547	328	700	215	523	319	555	611	---
July 1-----	496	826	786	655	674	675	427	396	590	751	(664)	523	687	661	610	436	729	554	809	520	758	435	432	145	510	(741)	624	481	500	362	540	473	294	721	532	344	413	614	538	772
Averages------	587	697	795	666	562	495	417	353	649	353	(631)	494	621	594	618	572	595	610	812	589	623	533	557	529	624	(721)	661	601	509	334	429	544	474	645	574	501	569	632	565	(670)

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

Section	Temperature								Precipitation					
			Monthly extremes								Monthly extremes			
	Average	Departure from normal	Station	Highest	Date	Station	Lowest	Date	Average	Departure from normal	Station	Greatest	Station	Least
	°F.	°F		°F.			°F.		In.	In.		In.		In.
November 1954														
Alaska	[illegible]	4.5	2 Stations	59	4+	Tanacross	-36	30	2.17	0.09	Little Port Walter	39.00	Sheep Mountain	0.13
December 1954														
Alaska	-7.2	-10.0	2 Stations	53	17+	Allakaket	-69	26	1.89	.18	Baranof	31.97	Point Lay	.01
Hawaii	69.3	-.7	US MAG Obsy	86	15	Haleakala RS	32	17	17.43	9.60	Kaiiua Mauka	87.17	3 Stations	1.02
January 1955														
Alaska	7.4	6.2	2 Stations	49	24+	Allakaket	-72	4	2.20	.40	Little Port Walter	32.56	Chitina	.00
Hawaii	67.3	-.3	Kahului Airport	87	6+	Mauna Loa Upper	22	30	6.06	-1.60	Piihonua	24.00	Pohakuloa	.37
February 1955														
Alaska	-3.0	-7.4	Cape Sarichef Lgt.St.	57	25	2 Stations	-64	15+	1.81	.33	Port Alexander	18.92	Hughes	T
Hawaii	66.7	-1.3	4 Stations	[illegible]	4+	Haleakala RS	31	9+	13.20	7.96	Waikamoi Dam	44.18	Waiawa	.82
March 1955														
Alaska	9.7	-.3	Beaver Falls	57	7+	Fort Yukon CAA	-50	3	1.80	.29	Little Port Walter	23.96	Wainwright	T
Hawaii	66.6	-1.5	2 Stations	88	5+	Mauna Loa Upper	20	12	6.20	-1.87	East Honomanu	26.70	Honaunau	.47
April 1955														
Alaska	19.0	-5.3	Ketchikan	60	29	Selawick	-38	1	1.13	.01	Latouche	15.08	Hughes	T
Hawaii	68.5	-.6	2 Stations	88	11+	Mauna Loa Upper	26	6	5.98	-1.32	Piihonua	38.40	3 Stations	.00
Puerto Rico	74.0	-.9	Mayaguez (2)	95	1+	Garzas Dam	42	4	2.94	-1.24	Utuado	9.58	Santa Isabel	.00
May 1955														
Hawaii	69.4	-.3	Puunene CAA AF	90	8+	Mauna Loa Upper	29	3	5.11	-.13	East Honomanu	49.04	3 Stations	.00

CLIMATOLOGICAL DATA

Table 2

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb	Mb.	°F.	°F.	°F.	°F.	°F.		°F		#		°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
December 1954																																
ALASKA																																
Anchorage	92	995.9	1001.3	13	-1	6.0	-7.8	28	20	-29	26+	0	31	-3	63	1.00	0.16	0.32	10	0	19.0	16	4.9	N	*37	SW	17	6	9	16	6.6	48
Annette	110	1001.4	1005.4	41	32	36.4	.3	53	17	15	29	0	18	33	86	20.19	11.08	3.61	27	1	15.7	5	18.2	SSE	*58	SSE	19	2	3	26	8.7	--
Barrow	22	1011.5	1012.0	-9	-22	-15.6	-5.2	5	7	-35	17+	0	31	-29	52	.07	-.13	.06	3	0	.9	9	8.2	---	24	NE	1+	a	a	a	a	--
Bethel	21	1006.1	1007.8	4	-14	-5.0	-12.2	33	5+	-40	26	0	31	-10	75	1.28	.43	.42	14	0	17.4	15	11.6	N	*27	NNE	27	10	5	16	6.0	--
Cordova	40	995.3	996.9	29	11	19.9	-6.7	43	19	18	27	0	30	16	83	5.25	-1.71	2.15	16	0	23.5	11	6.0	E	*31	E	18	8	2	21	7.0	--
Fairbanks	436	990.5	1009.3	-13	-30	-21.5	-12.4	27	1	-54	26	0	31	-29	70	.48	-.02	.08	10	0	9.8	13	1.5	N	17	SW	1	11	5	15	5.9	--
Juneau	15	1001.4	1002.3	32	24	28.1	.5	48	18	-7	29	0	21	23	81	5.42	1.25	1.08	23	0	23.5	10	10.0	ESE	43	SE	18	1	0	30	9.5	11
Kotzebue	10	1011.2	1011.9	-12	-23	-17.2	-13.5	25	1	-37	29	0	31	-23	74	.07	-.28	.06	2	0	3.3	11	9.0	NE	*50	ESE	4	15	5	11	4.5	--
McGrath	334	994.9	1008.9	-11	-27	-19.1	-11.8	32	1	-54	26+	0	31	-25	74	1.43	.18	.43	14	0	14.3	19	1.9	NNW	*23	SSW	1	9	4	18	6.5	--
Nome	13	1009.1	1009.9	3	-13	-5.1	-12.8	26	1	-30	25+	0	31	-13	67	.10	-1.06	.05	3	0	1.4	7	7.4	N	50	NE	6	15	4	12	4.8	53
Northway	1713	941.4	1009.2	-15	-29	-21.9	-7.1	9	20	-58	28	0	31	-27	73	.51	.14	.17	11	0	11.5	14	2.7	NW	*20	NW	26	5	5	21	7.6	--
St Paul Island	22	1007.8	1008.9	30	20	25.2	-4.1	41	4+	3	17	0	29	21	82	1.16	-.83	.50	19	0	5.7	6	---	---	--	---	--	1	6	24	8.7	--
Yakutat	28	997.3	998.4	31	18	24.8	-3.0	45	18	-8	30	0	27	22	86	14.11	1.80	1.77	25	0	84.5	30	10.1	ESE	*45	SE	18	6	1	24	8.2	--
January 1955																																
ALASKA																																
Anchorage	92	997.0	1002.0	26	10	18.2	5.2	45	9	-8	7	0	30	12	72	1.12	.36	.48	8	0	21.1	18	5.1	N	*35	E	9	6	2	23	7.7	38
Annette	110	1009.1	1013.2	42	33	37.7	3.1	47	6+	20	2	0	12	35	88	17.33	7.93	3.30	24	0	7.7	9	14.8	SE	*40	ESE	4	3	2	26	8.7	--
Barrow	22	1011.9	1012.4	-9	-19	-14.0	1.1	9	12	-41	3	0	31	-26	53	.06	-.10	.05	2	0	1.1	10	11.0	NE	26	NE	12	b	b	b	b	--
Bethel	21	993.2	994.6	23	6	14.5	7.7	38	26	-38	3	0	31	12	86	1.24	.34	.59	13	0	12.6	20	11.6	ENE	*34	NNE	2	6	1	24	7.6	--
Cordova	40	1001.7	1003.6	37	24	30.4	5.4	43	21	-1	1	0	27	28	88	10.48	3.43	1.92	25	0	25.3	12	7.7	E	*35	[illegible]	2	2	1	28	9.1	--
Fairbanks	436	987.1	1005.3	8	-15	-3.2	6.6	37	9	-35	5	0	31	-8	78	.49	-.50	.16	7	0	10.3	20	1.9	N	17	E	9	7	7	17	6.9	--
Juneau	15	1009.5	1010.4	35	29	32.1	5.9	43	27	10	1	0	20	29	89	4.03	-.45	.88	22	0	20.2	11	7.8	ESE	35	SE	2	1	1	29	9.5	11
Kotzebue	10	1004.1	1004.5	9	-5	2.3	8.9	31	10	-36	5	0	31	-3	79	.32	-.15	.09	9	0	10.6	19	12.2	E	*32	ENE	23	0	6	19	6.9	--
McGrath	334	988.8	1002.3	9	-11	-.9	7.8	36	9	-45	4	0	31	-5	79	.80	-.34	.26	11	0	8.0	26	1.6	WNW	*20	NNW	3	2	6	23	8.5	--
Nome	13	998.6	999.2	20	7	13.3	7.7	35	26	-21	4+	0	31	8	79	.77	-.48	.27	14	0	12.6	12	13.8	[illegible]	46	N	1	7	5	19	7.0	47
Northway	1713	943.8	1010.8	-5	-20	-12.4	4.7	4	10+	41	1	0	31	-18	76	.12	-.49	.08	3	0	1.9	15	1.7	S	*25	NW	6	5	5	21	7.5	--
St Paul Island	22	986.5	987.4	30	22	26.3	-.1	37	1+	12	3+	0	31	24	88	.81	-1.01	.26	12	0	8.5	10	--	-	--	---	--	1	5	25	8.5	--
Yakutat	28	1005.8	1006.7	36	26	31.1	4.6	40	2+	9	17	0	23	30	93	17.12	5.52	1.99	24	0	53.2	17	10.6	ESE	*37	SE	2	3	1	27	8.8	--
February 1955																																
Anchorage	92	1008.8	1013.8	24	7	15.4	-3.2	40	19	-18	8	0	28	7	67	3.07	2.49	.86	16	0	48.5	27	7.4	N	*23	SSE	19+	4	3	21	8.0	33
Annette	110	1012.9	1017.1	39	30	34.7	-1.4	45	21	15	26	0	15	30	82	11.17	4.13	1.94	22	0	9.0	5	14.9	SE	*40	SSE	5	3	1	24	8.7	--
Barrow	22	1026.8	1027.2	-21	-32	-26.3	-8.4	18	25	-50	14+	0	28	-34	46	.12	-.03	.05	5	0	1.7	12	12.6	WSW	29	E	3+	14	6	8	4.4	--
Bethel	21	1015.9	1017.5	10	-9	.2	-8.9	37	25	-37	7	0	28	-5	78	1.12	.30	.47	18	0	8.7	23	12.9	NE	*29	NE	8+	7	6	15	6.9	--
Cordova	40	1008.8	1010.6	35	20	27.8	1.7	42	20+	-3	8	0	27	23	81	5.51	.24	.93	17	0	19.2	9	7.9	E	*29	N	27	4	5	19	7.9	--
Fairbanks	436	1002.7	1021.2	-1	-23	-12.3	-9.2	22	26	-45	9	0	28	-21	64	.60	.09	.16	13	0	16.4	22	3.4	N	33	W	26	6	6	16	6.7	--
Juneau	15	1014.2	1015.1	34	24	29.3	2.0	41	4+	2	26	0	20	23	77	3.30	-.05	.64	21	0	23.6	9	8.9	ESE	36	SE	17	2	3	23	8.8	31
Kotzebue	10	1024.7	1025.4	-13	-27	-19.9	-15.2	19	24	-47	19	0	28	-28	68	.18	-.14	.05	7	0	3.7	15	10.9	ESE	*30	WNW	26+	17	5	6	3.4	--
McGrath	334	1007.5	1021.1	1	-19	-8.9	-9.3	29	26	-51	13	0	28	-15	73	.96	-.19	.20	17	0	9.6	31	3.7	NW	*17	NW	27	6	3	19	7.5	--
Nome	13	1022.6	1023.1	3	-15	-5.8	-11.5	26	25	-33	16	0	28	-13	68	.26	-.67	.10	7	0	4.0	15	8.3	NE	57	NE	10	15	4	9	4.1	68
Northway	1713	952.6	1019.8	-2	-21	-11.3	-1.9	19	25	-5.	9	0	28	-17	73	.31	-.03	.11	12	0	7.7	19	5.7	NW	*24	NW	5+	3	2	23	8.3	--
St Paul Island	22	1012.2	1013.4	30	21	25.6	1.8	36	25	8	12	0	28	24	89	1.21	.08	.23	17	0	13.6	16	----	---	--	---	--	0	4	24	9.0	--
Yakutat	28	1010.8	1012.2	35	22	28.3	.3	45	4	3	8	0	26	25	86	13.34	4.73	2.06	23	0	77.8	38	10.7	ESE	*37	SE	10	2	3	23	8.6	--

ble 2—Continued

CLIMATOLOGICAL DATA

DELAYED DATA

State and station	Elevation (ground)	Pressure		Temperature								No of days				Precipitation			No of days		Snow, Sleet, Hail		Wind					No of days (sunrise to sunset)				
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Fastest mile Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F	°F	°F.	°F.	°F		°F				°F	%	In.	In.	In.			In.	In.	M p. h.		M p h			0–3	4–7	8–10	0–10	%
larch 1955																																
horage	92	1007.5	1012.7	32	14	23.1	1.7	46	6	12	2	0	30	12	62	51	-.09	.23	8	0	8.6	21	[illegible]	N	*29	NNE	20	[illegible]	2	8	6.4	[illegible]
ette	110	1012.2	1016.4	39	28	33.2	-4.9	50	30	[illegible]	3	0	21	27	76	11.43	2.75	3.18	18	0	16.8	3	13.6	NNW	*36	SE	26	5	5	21	[illegible]	
row	22	1024.2	1025.0	-13	-24	-18.5	3.6	0	23	35	13	0	31	33	47	06	-.06	.04	3	0	.7	13	12.2	NE	31	E	16	15	6	6	4.4	
hel	21	1010.3	1011.7	24	3	13.6	2.1	41	5+	22	11	0	31	10	84	1.28	.36	.31	14	[illegible]	11.6	25	12.4	NNE	*29	WSW	9+	[illegible]	6	17	6.8	
dova	40	1009.6	1011.4	37	20	28.4	1.7	47	28	-3	3	0	30	23	[illegible]	4.75	-1.17	.95	15	0	26.9	15	6.7	E	*30	E	26	4	9	18	7.3	
rbanks	436	996.8	1014.8	25	-5	10.1	1.1	44	6	-39	2	0	31	2	69	.52	-.06	.13	10	0	12.4	22	3.9	N	[illegible]	NE	20	9	5	17	6.4	
eau	15	1014.0	1014.9	35	21	27.8	5.0	49	30	10	3	0	29	26	74	4.72	1.25	1.12	22	0	19.4	[illegible]	9.5	ESE	34	E	26	7	3	21	7.4	41
zebue	10	1015.3	1016.0	9	-12	-1.5	1	27	30	-32	12	0	31	6	81	.36	.09	.14	11	0	8.5	20	11.1	NE	*31	ENE	4	7	6	[illegible]	6.9	
rath	334	1000.6	1013.9	25	1	12.2	4.9	43	29	-27	12	0	31	6	72	2.12	1.14	.57	14	0	24.7	38	4.0	N	*[illegible]	SSW	8	9	5	17	6.4	
e	13	1012.3	1013.0	16	-5	5.5	3.0	30	8+	-21	11	0	31	1	80	.79	-.12	.21	13	0	14.5	24	9.0	E	43	E	15	7	9	15	6.7	54
thway	1713	949.5	1015.3	22	-9	6.6	-.3	42	28	-46	2	0	31	1	75	24	.02	.14	6	0	4.4	20	5.8	NW	*21	NW	10	9	5	17	6.7	
Paul Island	22	1009.4	1010.5	29	19	23.8	.7	38	7+	8	6+	0	31	21	87	78	-.39	17	16	0	10.3	17					-	3	6	20	8.[illegible]	
utat	28	1011.3	1012.4	36	22	29.0	1.8	46	31	-3	2	0	28	25	83	11.25	1.36	1.86	20	0	74.7	66	10.[illegible]	ESE	*40	SE	26	3	6	22	8.2	
pril 1955																																
horage	92	1002.4	1007.4	39	23	31.1	4.3	48	29+	12	11	0	29	20	63	1.32	92	59	11	0	16.7	19	7.6	N	*21	SSW	6+	7	5	18	6.7	60
ette	110	1006.4	1010.7	47	34	40.3	2.3	57	29	30	14+	0	10	34	80	10.51	2.38	4.14	17	0	3.5	T	12.8	SE	*42	SSE	[illegible]	6	8	16	7.0	
row	22	1016.6	1017.1	5	-8	-1.8	1.6	24	21	-31	7	0	30	10	67	.06	.04	02	4	0	7	13	9.0	NE	33	E	17	10	5	15	6.0	
hel	21	1007.1	1008.5	26	10	18.1	8.7	46	30	-18	3	0	30	14	82	1.11	.56	.40	14	0	10.4	28	13.0	S	*40	SSW	19	7	2	2[illegible]	7.2	
dova	40	1005.1	1006.9	42	25	33.2	3.2	51	15	16	7	0	28	27	76	3.55	1.52	1.11	16	0	17.6	11	7.0	E	*28	ESE	4	6	5	19	6.9	
rbanks	436	991.5	1009.3	33	10	21.6	-7.3	50	30	-21	3	0	30	12	63	.19	-.10	14	4	0	2.3	17	5.2	N	*17	W	22	[illegible]	7	15	6.0	
eau	15	1008.1	1008.9	46	30	38.0	1.5	54	16+	24	2+	0	24	29	71	2.46	52	.80	13	0	4.1	1	7.9	ESE	35	SE	4	4	6	20	8.0	53
zebue	10	1011.2	1011.7	18	-4	7.2	-6.6	34	29+	-28	4	0	30	3	80	16	-.20	10	4	0	3.6	20	11.3	ESE	*44	E	16	11	8	11	5.2	
rath	334	996.6	1009.7	31	4	17.1	-8.9	47	28+	-21	3	0	30	10	69	95	.46	66	6	0	9.6	34	4.5	N	*24	SSE	20	6	9	15	6.4	
m	13	1008.8	1009.5	22	4	12.8	-8.2	40	30	-17	3+	0	30	9	79	32	.46	11	9	0	7.3	21	9.6	ENE	40	E	13	9	4	17	6.[illegible]	58
thway	1713	943.4	1007.7	37	10	23.5	-2.3	45	5+	-8	12	0	30	16	72	34	-.01	22	5	0	8.8	17	5.7	NW	*16	NW	9	5	7	18	[illegible]	
Paul Island	22	1008.1	1009.2	29	21	24.9	5.2	37	27+	2	4	0	27	23	89	68	-.34	24	14	0	5.9	17						3	11	16	7.6	
utat	28	1007.1	1008.2	41	26	33.4	-3.1	52	15	19	25+	0	29	30	88	5.82	2.16	1.38	19	0	46.5	56	7.5	E	*41	SE	4	5	4	2[illegible]	7.7	

Sun below horizon entire month.   b Sun below horizon continuously until January 23rd.   Also see footnotes with current data

Table 4

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons Killed	Number of persons Injured	Estimated damage Property (exclusive of crops)	Estimated damage Crops	Character of storm	Remarks
Dec. 1954										
Boyertown, Pa.	30	Daytime					$1,000,000		Electrical	Lightning struck and fired big lumber yard, which heavily damaged 8 adjoining homes and their contents; also damaged lodge hall.
Feb. 1955										
Houston (67 miles west-southwest of), Tex.	4	1:49 p.m.			0	0	0	$0	Tornado	Funnel cloud reported, apparently did not reach ground.
Tallahassee, (5 miles east of), Fla.	17	2:13 p.m.			0	0	0	0	do	Funnel cloud reported by aircraft pilot
Mar. 1955										
Hilo, Hawaii	18	5:20 p.m.	½	10	0	0	1,000	0	Water-spouts	2 waterspouts moved in from sea in west-southwestward direction. 3-car garage leveled and large tree downed by first waterspout as it swept over town. Second waterspout dissipated before reaching town.
	20									Minor storm reported at Hilo, Hawaii

SOLAR RADIATION DATA

ble 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun

Date	Sun's zenith distance A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	MADISON, WIS.								
	Air mass 4.81	3.84	2.88	1.92	N	1.92	2.88	3.84	4.81
y									
-----	0.55	0.60	0.62	0.83	1.28	1.18	1.02	0.85	0.69
-----	.50	.70	.89	1.11	1.46	1.19	1.01	.86	.72
-----	----	----	----	----	----	1.10	.85	.60	.44
-----	.89	.98	1.11	1.27	1.52	1.29	1.12	.99	.90
-----	----	----	.76	1.09	----	----	----	----	----
-----	.59	.72	.90	1.13	1.30	1.12	.95	.79	.68
-----	.78	.88	1.01	1.19	1.44	1.14	.96	.83	.72
-----	.65	.75	.89	1.06	1.35	1.02	----	----	----
-----	.86	.96	1.08	1.25	1.44	1.15	.99	.83	.74
-----	----	----	----	1.16	1.31	.90	.66	.49	.36
-----	----	----	----	.91	1.27	.97	.77	.64	.52
-----	.66	.76	.89	1.09	----	.79	----	----	----
-----	.84	.95	1.07	1.23	1.45	1.16	.98	.85	.74
erges	.70	.81	.92	1.11	1.38	1.08	.93	.77	.65

RADIOSONDE DATA

Average monthly values

Table 20

DELAYED DAT

Standard pressure surface (mb.)	1/ HAVANA, CUBA (1013 MB.)				2/ CAMAGUEY, CUBA (1003 MB.)				2/ FORT HUACHUCA, ARIZ. (857 MB.)				2/ HAVANA, CUBA (1012 MB.)				2/ MERIDA, MEXICO (1015 MB.)				2/ ST. PAUL, ALASKA (987 MB.)				3/ CAMAGUEY, CUBA (1004 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	25	49	22.6	79	21	122	17.8	92	27	1,428	4.7	64	31	49	20.4	77	31	27	22.6	74	31	10	- 2.5	85	25	122	18.9	92
1,000	25	160	22.9	74	21	150	18.4	89	27	146			31	156	20.4	74	31	156	21.9	74	31	100			25	155	19.3	89
950	25	608	20.3	69	21	597	18.6	75	27	553			31	602	17.5	73	31	600	19.5	70	31	311	- 4.2	84	25	600	18.4	80
900	25	1,071	17.9	63	21	1,034	16.1	73	27	1,021			31	1,058	14.7	73	31	1,064	16.8	70	31	731	- 6.7	85	25	1,060	15.5	79
850	25	1,557	14.8	60	21	1,539	13.8	67	27	1,495	5.1	58	31	1,540	12.8	58	31	1,548	13.4	74	31	1,175	- 8.5	74	25	1,543	13.1	74
800	25	2,068	12.1	56	21	2,049	12.8		27	1,987	2.8	50	31	2,048	12.7	36	31	2,057	11.7	58	31	1,643	-11.0	62	25	2,052	12.2	53
750	25	2,610	10.5	38	21	2,600	11.0		27	2,511	.2	42	31	2,599	10.7		31	2,602	10.2	38	31	2,140	-14.0	57	25	2,598	9.5	44
700	25	3,179	7.9		21	3,161	7.8		27	3,057	- 3.0	35	31	3,160	7.7		31	3,167	7.7		31	2,656	-17.3	55	25	3,160	6.8	
650	25	3,791	4.9		21	3,780	4.7		26	3,641	- 6.7		31	3,778	4.5		31	3,779	4.8		31	3,215	-20.9	53	24	3,774	4.0	
600	25	4,435	1.2		21	4,417	1.6		26	4,260	-11.0		31	4,415	.8		31	4,422	1.4		31	3,794	-24.9	51	24	4,412	.5	
550	25	5,128	- 2.7		21	5,114	- 2.9		25	4,927	-15.1		31	5,107	- 3.5		31	5,115	- 2.8		31	4,429	-29.5	49	24	5,110	- 3.2	
500	25	5,879	- 7.7		21	5,861	- 8.2		24	5,638	-20.1		31	5,854	- 8.5		31	5,865	- 7.8		31	5,093	-34.2	51	24	5,852	- 7.9	
450	25	6,695	-13.6		21	6,681	-13.6		24	6,415	-25.4		31	6,675	-14.5		31	6,680	-13.8		31	5,835	-39.5		24	6,675	-13.8	
400	25	7,571	-20.5		21	7,557	-20.0		24	7,260	-31.3		31	7,546	-21.2		31	7,560	-20.5		31	6,618	-44.7		24	7,549	-20.4	
350	25	8,546	-28.6		20	8,533	-27.3		24	8,194	-37.6		31	8,516	-28.8		31	8,533	-27.5		31	7,502	-49.4		24	8,522	-28.0	
300	25	9,630	-37.5		20	9,625	-35.4		23	9,233	-45.0		31	9,602	-37.0		31	9,621	-35.9		31	8,503	-52.1		24	9,609	-36.9	
250	25	10,860	-47.3		20	10,872	-43.7		22	10,422	-52.3		31	10,840	-45.7		30	10,859	-45.5		31	9,684	-50.3		24	10,845	-46.0	
200	25	12,305	-56.0		20	12,339	-53.9		18	11,854	-53.8		31	12,296	-54.7		29	12,312	-55.4		31	11,146	-47.9		24	12,302	-54.3	
175	25	13,149	-58.9		20	13,187	-59.1		15	12,698	-53.9		31	13,142	-58.9		29	13,153	-59.9		31	12,026	-47.6		23	13,147	-58.4	
150	25	14,106	-63.3		20	14,140	-65.1		11	13,666	-56.4		31	14,099	-63.6		28	14,103	-65.2		30	13,044	-47.0		23	14,106	-62.9	
125	25	15,211	-69.3		20	15,235	-71.7		5	14,791	-60.5		30	15,201	-69.5		26	15,200	-71.3		29	14,245	-46.8		23	15,214	-68.8	
100	23	16,524	-75.2		20	16,531	-77.5						29	16,510	-75.8		20	16,490	-77.8		28	15,719	-47.0		22	16,533	-74.2	
80	20	17,809	-76.1		15	17,803	-78.7						28	17,791	-77.8		7	17,763	-80.1		28	17,196	-47.2		19	17,829	-76.5	
60	20	19,486	-70.9		13	19,458	-72.4						25	19,456	-72.1						28	19,090	-49.3		16	19,483	-74.4	
50	18	20,580	-65.4		10	20,553	68.9						25	20,539	-68.6						27	20,282	-50.5		16	20,556	-70.1	
40	18	21,957	-58.7		8	21,900	-66.2						22	21,887	-64.8						27	21,731	-52.0		16	21,907	-63.9	
30	13	23,785	-51.6		6	23,652	-61.8						15	23,666	-60.7						14	23,555	-54.2		15	23,693	-58.1	
20																									5	26,282	-52.7	

Standard pressure surface (mb.)	3/ HAVANA, CUBA (1014 MB.)				3/ ST PAUL, ALASKA (1011 MB.)				3/ MERIDA, MEXICO (1014 MB.)				4/ CAMAGUAY, CUBA (1004 MB.)				4/ HAVANA, CUBA (1012 MB.)				4/ MERIDA, MEXICO (1012 MB.)				5/ CAMAGUAY, CUBA (1002 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	49	20.9	79	28	10	- 3.0	87	28	27	23.0	76	30	122	19.9	93	30	49	22.8	83	31	27	25.7	67	28	122	21.0	92
1,000	28	167	20.5	76	28	95			28	148	22.2	75	30	157	20.2	90	30	156	22.3	81	31	133	25.0	66	28	137	21.1	91
950	28	613	17.8	76	28	505	- 4.6	84	28	596	20.0	70	30	602	19.4	79	30	604	19.9	77	31	586	22.5	65	28	584	20.2	76
900	28	1,070	14.8	77	28	925	- 5.8	82	28	1,058	17.0	73	30	1,066	18.0	64	30	1,066	17.2	76	31	1,051	19.8	64	28	1,048	18.0	67
850	28	1,552	12.4	72	28	1,371	- 7.6	82	28	1,543	13.5	77	30	1,553	15.3	62	30	1,552	14.5	71	31	1,541	16.6	66	28	1,535	15.3	67
800	28	2,058	10.5	60	28	1,841	- 9.1	75	28	2,052	11.1	70	30	2,065	12.2	58	30	2,063	12.4	55	31	2,056	13.4	64	28	2,046	12.0	59
750	28	2,602	9.2	37	28	2,345	-11.4	74	28	2,596	9.7	49	30	2,607	10.4	31	30	2,605	10.3	37	31	2,603	10.9	44	28	2,597	9.5	43
700	28	3,164	6.9		28	2,865	-14.4	71	28	3,160	7.4		30	3,175	8.2		30	3,174	7.8	30	31	3,170	9.2		28	3,155	7.2	29
650	28	3,779	3.5		28	3,432	-17.6	65	28	3,773	4.1		30	3,791	5.1		30	3,789	4.9		31	3,787	6.5		28	3,771	4.7	
600	28	4,414	- .5		28	4,018	-20.8	58	27	4,413	.3		30	4,432	1.3		30	4,430	1.2		31	4,433	3.0		27	4,410	1.1	
550	28	5,109	- 4.7		28	4,664	-24.5	55	27	5,105	- 3.7		30	5,128	- 3.3		30	5,122	- 3.2		31	5,131	- 1.6		27	5,107	- 3.0	
500	28	5,848	- 9.1		28	5,344	-29.0	55	27	5,852	- 8.4		30	5,872	- 8.3		30	5,872	- 8.3		31	5,883	- 7.0		27	5,852	- 7.8	
450	28	6,668	-14.6		28	6,100	-33.9	53	27	6,668	-14.1		30	6,693	-14.0		30	6,691	-14.2		31	6,705	-13.1		27	6,674	-13.6	
400	28	7,538	-21.1		28	6,907	-39.2		27	7,544	-20.4		30	7,567	-20.7		30	7,566	-20.8		31	7,582	-19.9		27	7,549	-20.4	
350	28	8,509	-28.8		28	7,809	-45.7		27	8,516	-28.0		30	8,539	-28.4		30	8,537	-28.7		31	8,553	-28.2		27	8,522	-28.0	
300	28	9,593	-37.6		28	8,819	-52.0		27	9,601	-37.0		29	9,625	-36.4		30	9,622	-37.4		30	9,639	-36.9		27	9,609	-36.8	
250	28	10,824	-47.5		27	9,997	-56.0		27	10,833	46.9		29	10,868	-44.1		30	10,860	-44.9		27	10,878	-45.0		27	10,846	-45.7	
200	28	12,272	-55.0		26	11,417	-56.1		27	12,279	-55.4		29	12,339	-52.0		30	12,328	-51.9		27	12,340	-53.4		27	12,304	-54.7	
175	28	13,119	-58.3		26	12,267	-54.6		27	13,123	-59.0		28	13,192	-56.9		30	13,184	-56.9		27	13,187	-58.9		27	13,148	-59.7	
150	28	14,080	-62.5		26	13,258	-52.9		26	14,078	-63.9		28	14,155	-62.9		30	14,147	-63.0		26	14,138	-65.4		26	14,100	-65.2	
125	28	15,190	-68.4		25	14,434	-53.2		25	15,179	-69.8		22	15,259	-68.8		30	15,252	-69.8		26	15,228	-71.8		13	15,210	-69.7	
100	25	16,508	-73.6		25	15,871	-53.2		20	16,495	-74.5		17	16,566	-74.6		29	16,561	-74.9		20	16,527	-77.3					
80	24	17,799	-76.3		24	17,302	-53.2		16	17,785	-76.2		11	17,846	-77.7		24	17,862	-77.3		15	17,807	-78.8					
60	18	19,460	-73.1		23	19,154	-52.9		12	19,446	-73.9		9	19,507	-76.2		20	19,509	-76.0		10	19,454	-76.2					
50	13	20,536	67.7		20	20,325	-53.2		11	20,523	-68.7		9	20,568	-73.1		17	20,575	-71.1		10	20,514	-71.8					
40	13	21,896	-62.8		15	21,750	-53.9		8	21,883	-63.1		7	21,881	-68.9		15	21,920	-63.4		8	21,846	-64.8					
30	10	23,693	-57.4		9	23,586	-54.9		6	23,664	-58.7		6	23,630	-59.3		15	23,718	-56.6									
20																	10	26,351	-48.4									

Standard pressure surface (mb.)	5/ MERIDA, MEXICO (1009 MB.)				5/ ST PAUL, ALASKA (1008 MB.)				6/ MERIDA, MEXICO (1010 MB)				6/ ST PAUL, ALASKA (1001 MB.)				6/ TACUBAYA, MEXICO (774 MB.)				6/ VERACRUZ, MEXICO (1012 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	27	27.7	63	30	10	- 3.1	89	30	27	28.6	62	31	10	1.0	90	18	2,306	18.6	47	10	13	26.1	
1,000	30	106	27.1	62	30	70		86	30	113	28.1	61	31	15			18	42			10	118	25.5	
950	30	563	25.3	57	30	475	- 5.9	84	30	572	25.7	58	31	426	- 1.7	90	18	504			10	567	23.3	
900	30	1,032	22.5	56	30	896	- 7.4	75	30	1,042	23.0	56	31	854	- 4.0	88	18	986			10	1,039	20.7	
850	20	1,527	19.1	59	30	1,339	- 8.9	66	30	1,538	19.7	59	31	1,303	- 5.8	84	18	1,489			10	1,531	17.3	
800	30	2,045	15.6	57	30	1,807	-10.8	53	30	2,058	16.3	59	31	1,777	- 8.0	78	18	2,020			10	2,046	14.7	
750	30	2,597	13.0	47	30	2,306	-13.2	50	30	2,605	13.0	50	31	2,285	-10.4	69	18	2,577	17.1	44	10	2,602	11.9	
700	30	3,167	10.8		30	2,823	-15.9	50	30	3,180	9.8	37	31	2,804	-13.0	61	18	3,158	12.4	46	10	3,166	8.9	
650	30	3,788	7.2		30	3,387	-18.9	45	29	3,796	6.7		31	3,377	-15.7	52	18	3,779	7.1	53	7	3,783	4.7	
600	30	4,434	3.3		30	3,970	-22.5		28	4,446	2.4		31	3,966	-19.0	48	18	4,427	2.0	62	7	4,424	.6	
550	30	5,133	- 1.3		30	4,612	-26.3	39	28	5,142	- 1.7		31	4,612	-23.0	42	18	5,122	- 3.6	68	6	5,123	- 3.3	
500	30	5,886	- 6.5		30	5,286	-30.5		28	5,895	- 6.5		31	5,300	-27.1	39	18	5,870	- 8.5	65	5	5,875	- 7.7	
450	30	6,707	-12.2		30	6,039	-35.1		28	6,715	-11.6		31	6,059	-32.3	38	18	6,692	-12.7					
400	30	7,590	-19.1		30	6,840	-40.2		28	7,603	-18.1		31	6,873	-37.9		18	7,572	-18.4					
350	30	8,567	-27.2		30	7,740	-45.4		28	8,585	-25.7		31	7,781	-43.7		17	8,553	-25.8					
300	30	9,656	-36.0		29	8,759	-49.5		28	9,682	-34.3		31	8,803	-49.1		16	9,651	-34.0					
250	30	10,894	-45.8		29	9,944	-51.9		26	10,932	-43.9		31	9,992	-49.7		12	10,898	-43.7					
200	28	12,341	-56.5		29	11,394	-49.8		26	12,391	-55.1		31	11,464	-46.5		9	12,344	-55.0					
175	28	13,176	-62.1		29	12,269	-48.9		26	13,231	-61.3		31	12,349	-46.6		8	13,181	-61.1					
150	24	14,108	-67.8		29	13,281	-48.9		23	14,162	-67.6		31	13,370	-47.0		5	14,112	-66.5					
125	20	15,188	-72.6		29	14,477	-49.3		21	15,245	-72.3		31	14,576	-47.4		5	15,200	-71.6					
100	20	16,481	-76.6		28	15,934	-49.9		12	16,562	-74.4		31	16,047	-48.2									
80	13	17,762	-77.4		28	17,391	-50.3		8	17,845	-74.6		31	17,515	-48.7									
60	6	19,442	-69.7		28	19,265	-50.9		5	19,531	-66.9		31	19,403	-48.8									
50	6	20,541	-64.7		27	20,456	-50.0						30	20,597	-48.7									
40					26	21,913	-49.1						30	22,061	-49.2									
30					14	23,798	-48.9						17	23,929	-49.4									

1/ March 1953
2/ January 1955
3/ February 1955
4/ March 1955
5/ April 1955
6/ May 1955

Also see footnotes with current data.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys DELAYED DATA

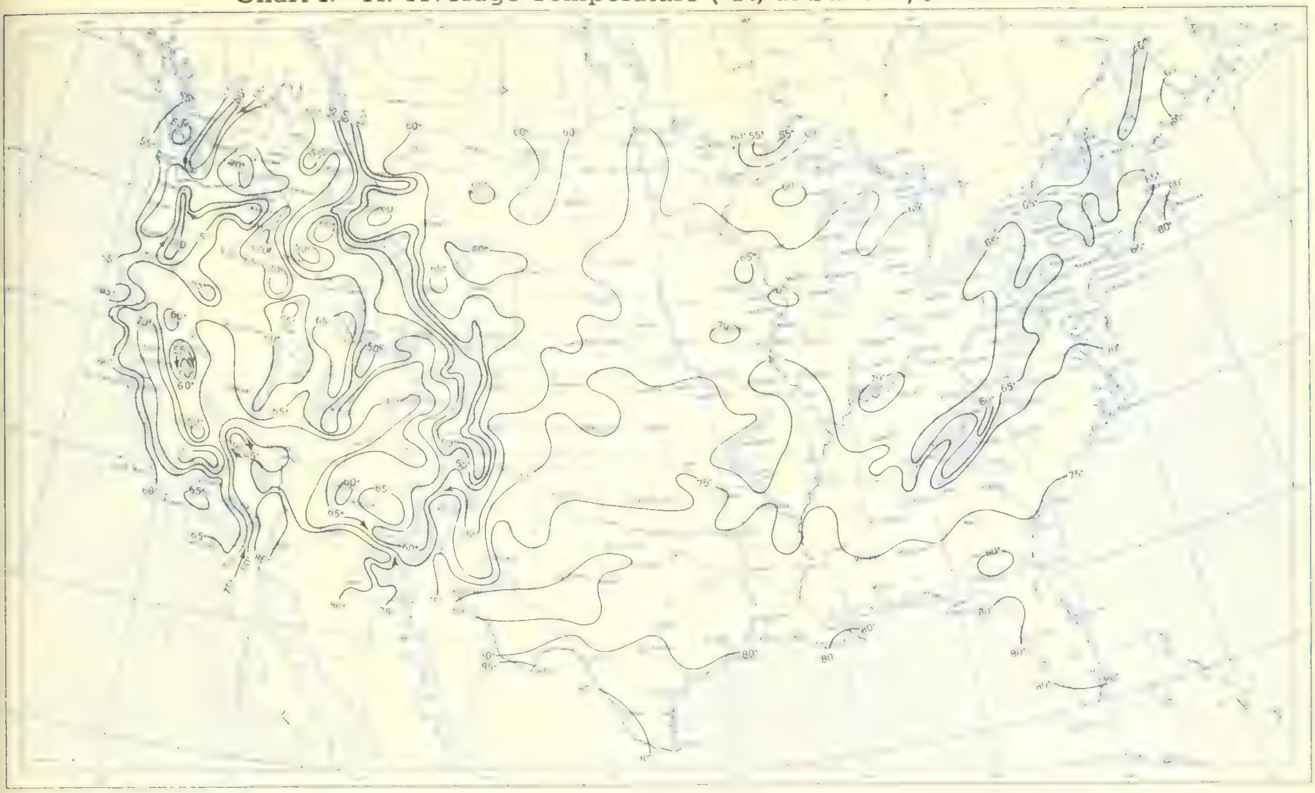
	* Columbus, Ohio		* Columbus, Ohio	Griffin, Ga.		Albrook Air Base Panama, C. Z.	Annette, Alaska	* Columbus, Ohio	Ft. Huachuca, Ariz.	Seabrook, N. J.		Albrook Air Base Panama, C. Z.	* Columbus, Ohio	Seattle, Wash. (U. of W.)		Albrook Air Base Panama, C. Z.	* Columbus, Ohio		Albrook Air Base Panama, C. Z.	* Columbus, Ohio	Seattle, Wash. (U. of W.)		Albrook Air Base Panama, C. Z.	* Columbus, Ohio
1954		1954 Dec.			1955 Jan.						Feb.				Mar.			Apr.				May		
Nov. 5-----	227	3	102	341	1	525	32	112	†	188	5	466	40	157	5	666	74	2	426	515	202	7	551	445
Nov. 6-----	299	4	135	320	2	584	18	212	70	148	6	406	38	29	6	524	244	3	401	589	297	8	311	639
Nov. 7-----	281	5	182	59	3	570	18	98	356	172	7	483	267	17	7	653	407	4	448	491	453	9	337	487
Nov. 8-----	266	6	216	213	4	389	13	27	340	162	8	351	82	107	8	671	279	5	431	515	489	10	392	316
Nov. 9-----	291	7	188	342	5	456	12	28	382	152	9	294	312	211	9	686	395	6	603	554	490	11	444	526
Nov. 10-----	288	8	151	162	6	402	1	52	371	85	10	422	115	221	10	692	224	7	650	242	373	12	565	438
Nov. 11-----	270	9	42	280	7	442	20	236	374	241	11	352	271	158	11	684	473	8	561	639	130	13	435	106
Average-------	275		145	245		481	16	109	316	164		396	161	128		654	300		503	507	348		434	422
Nov. 12-----	300	10	46	362	8	256	85	132	318	236	12	487	334	36	12	678	401	9	535	609	284	14	398	498
Nov. 13-----	252	11	226	315	9	433	98	54	397	35	13	469	368	112	13	679	375	10	373	607	307	15	452	740
Nov. 14-----	224	12	28	258	10	391	25	78	397	175	14	542	80	64	14	653	481	11	539	146	483	16	471	688
Nov. 15-----	266	13	44	46	11	370	6	224	346	64	15	501	289	68	15	635	141	12	533	496	254	17	462	763
Nov. 16-----	110	14	27	73	12	410	40	61	370	209	16	457	29	100	16	464	300	13	620	323	293	18	477	752
Nov. 17-----	229	15	72	347	13	203	35	185	295	54	17	565	218	275	17	498	356	14	652	259	421	19	490	582
Nov. 18-----	222	16	87	343	14	317	18	112	88	253	18	438	341	198	18	568	356	15	629	230	212	20	353	640
Average-------	229		76	249		340	44	121	316	146		494	237	122		597	344		555	382	322		443	666
Nov. 19-----	140	17	24	152	15	150	73	241	†	72	19	519	172	147	19	543	529	16	671	605	342	21	388	621
Nov. 20-----	31	18	73	280	16	258	43	207	†	223	20	461	133	242	20	446	289	17	645	639	523	22	417	414
Nov. 21-----	62	19	126	123	17	210	65	262	†	245	21	514	66	159	21	472	87	18	593	417	298	23	310	479
Nov. 22-----	60	20	258	331	18	384	113	255	†	252	22	585	129	100	22	424	234	19	399	203	438	24	81	392
Nov. 23-----	140	21	192	263	19	402	27	62	405	151	23	660	410	51	23	443	440	20	410	406	279	25	353	340
Nov. 24-----	81	22	166	309	20	542	53	258	405	275	24	689	385	99	24	530	565	21	487	270	456	26	518	568
Nov. 25-----	46	23	215	324	21	491	16	42	410	196	25	---	340	94	25	342	264	22	448	532	225	27	352	518
Average-------	80		151	254		348	56	189	---	202		571	234	127		457	344		522	439	366		346	476
Nov. 26-----	54	24	144	344	22	429	47	117	420	196	26	---	50	127	26	500	---	23	486	263	611	28	383	271
Nov. 27-----	26	25	212	135	23	208	21	270	430	145	27	---	190	245	27	444	---	24	486	404	524	29	324	613
Nov. 28-----	80	26	142	123	24	475	42	241	475	168	28	648	143	226	28	580	---	25	445	218	513	30	362	220
Nov. 29-----	79	27	112	204	25	420	22	164	318	186	Mar 1	616	103	127	29	462	---	26	611	129	242	31	351	787
Nov. 30-----	200	28	6	107	26	402	22	152	376	264	2	579	149	190	30	436	---	27	581	336	411	Jun 1	367	768
Dec. 1-----	84	29	20	65	27	372	24	320	432	---	3	689	206	137	31	172	---	28	537	684	584	2	334	764
Dec. 2-----	99	30	76	349	28	584	59	138	†	---	4	629	116	352	Apr 1	420	520	29	363	677	310	3	360	690
		31	128	149																				
Average-------	89					413	34	201	409	192		632	180	201		431	---		501	387	456		355	588
		Avg.	105	185																				
					29	474	76	346	†	209								30	565	676	567			
					30	535	107	277	†	148								May 1	441	619	367			
					31	312	77	130	†	328								2	466	624	287			
					Feb. 1	403	75	71	†	73								3	586	596	348			
					2	509	36	302	452	82								4	495	588	661			
					3	444	32	361	461	---								5	451	674	496			
					4	480	30	341	†	352								6	484	680	677			
					Avg.	451	62	261	---	199									498	637	486			

Note.--**Langley** is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

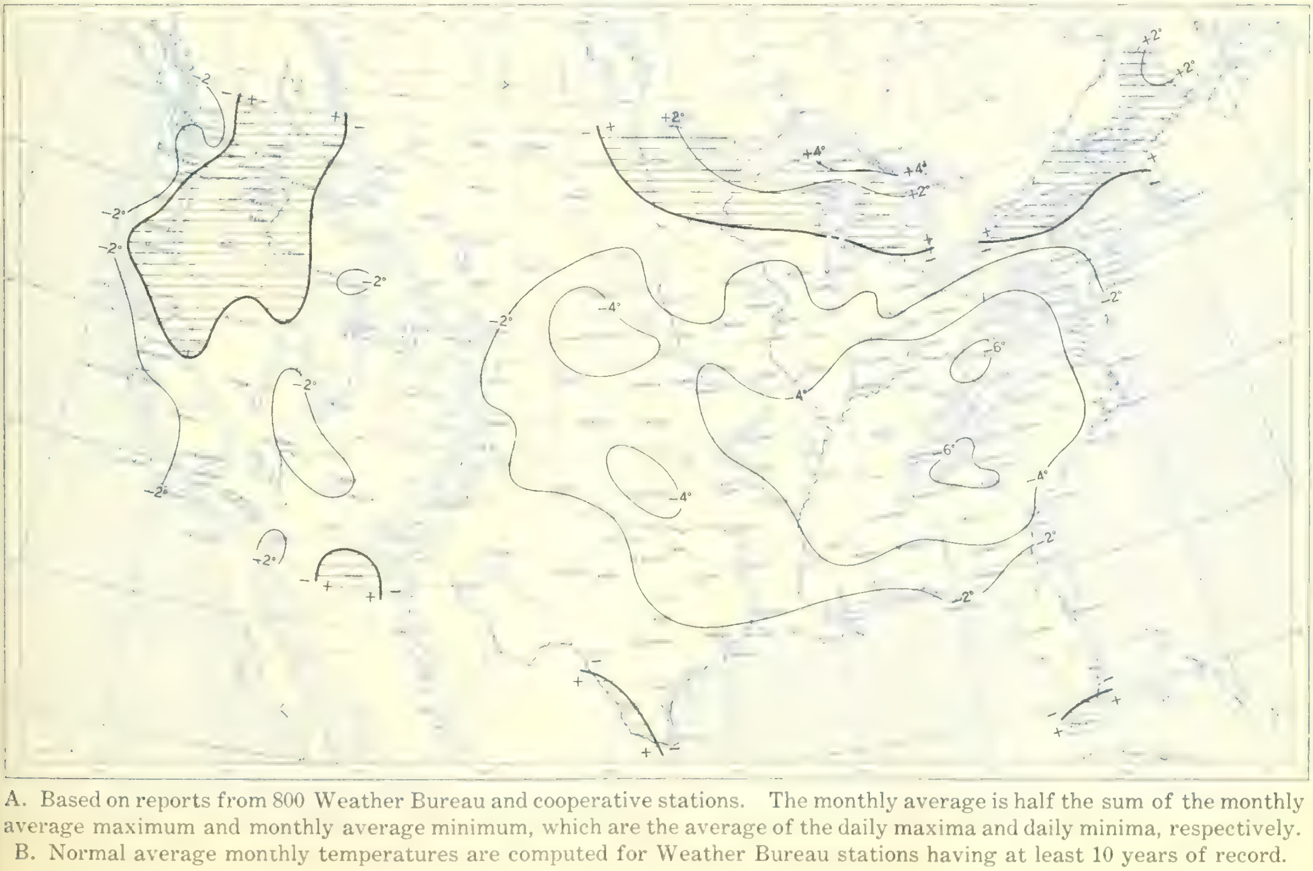
* These are corrected data.
† Instrument inoperative.

NWRC, Asheville N.C. --- 9 26 55 --- 1850

Chart I. A. Average Temperature (°F.) at Surface, June 1955.

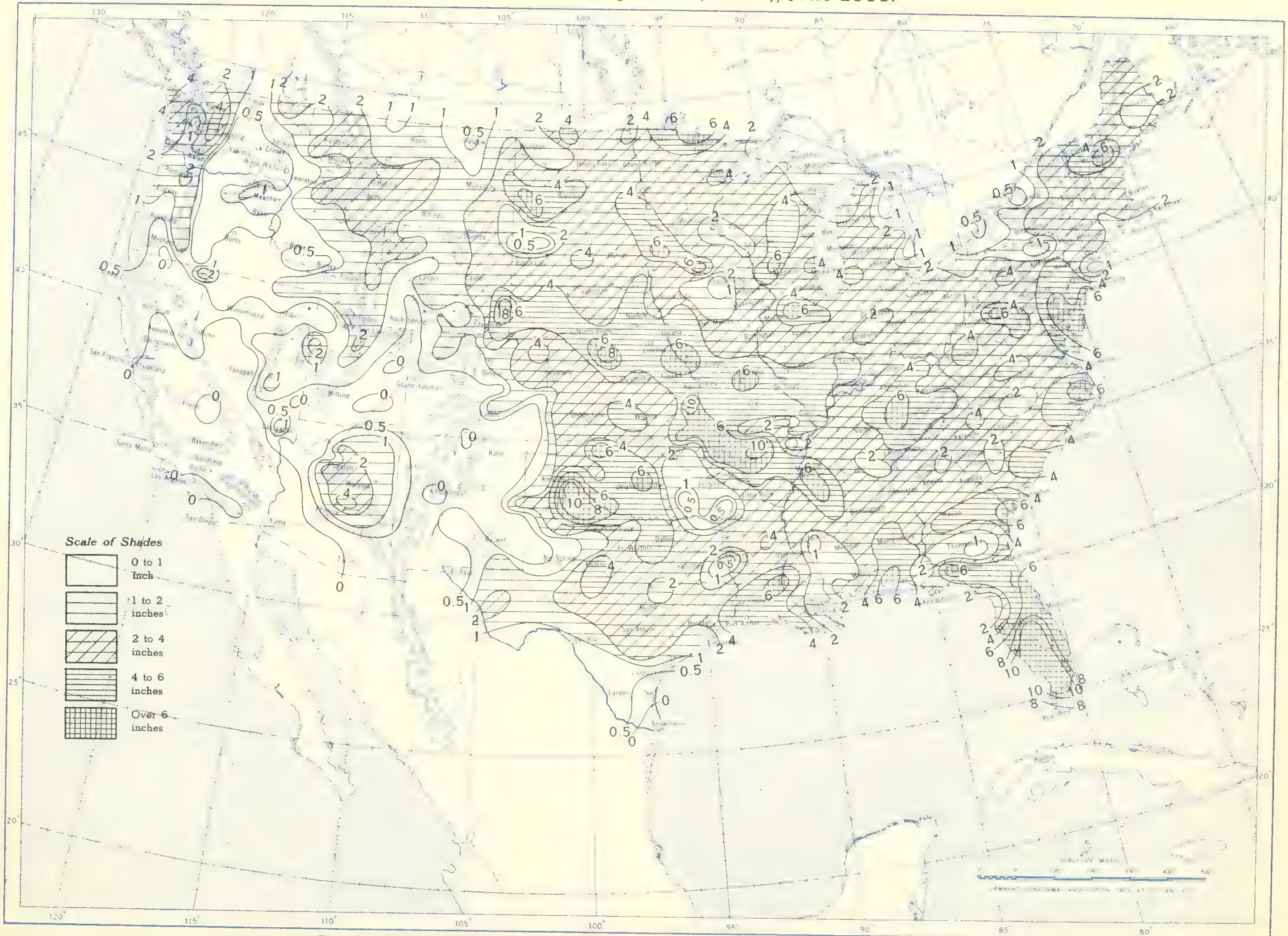


B. Departure of Average Temperature from Normal (°F.), June 1955.



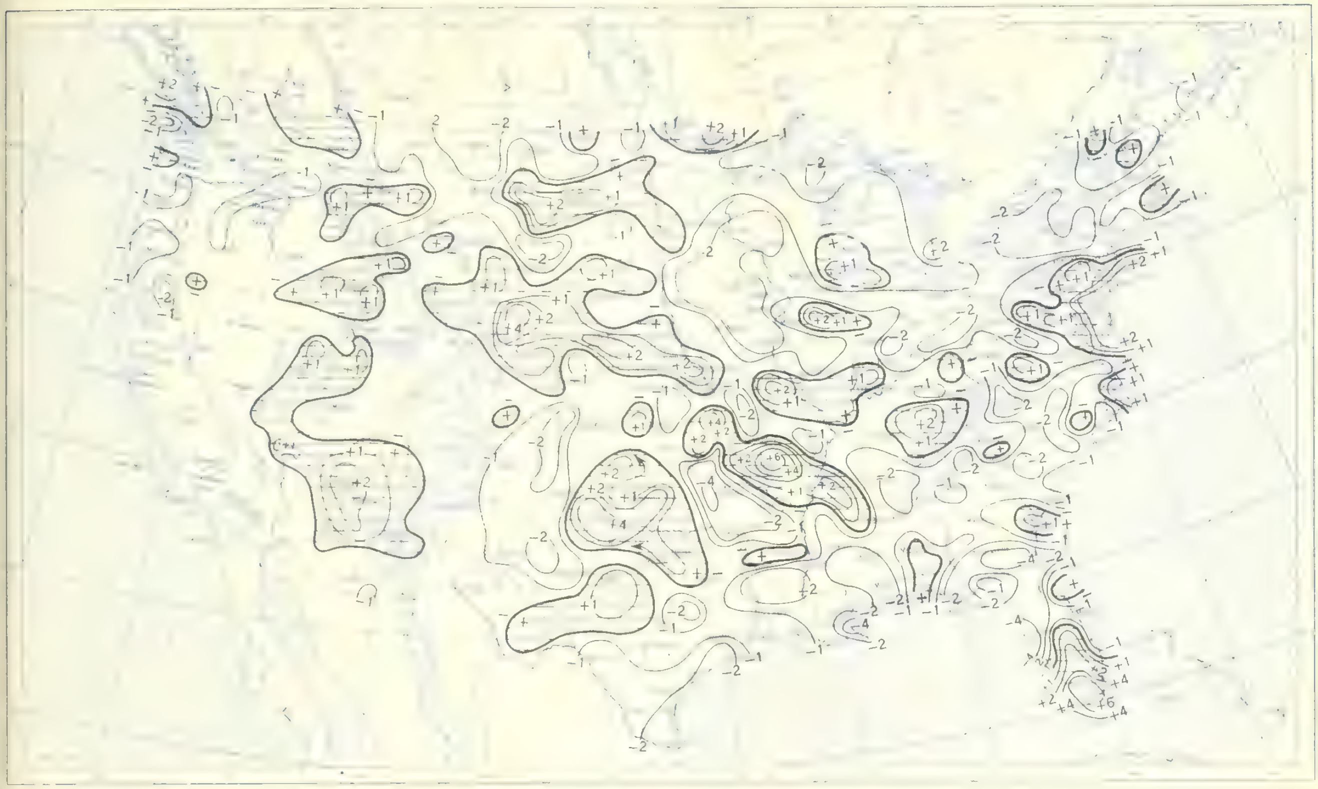
A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), June 1955.

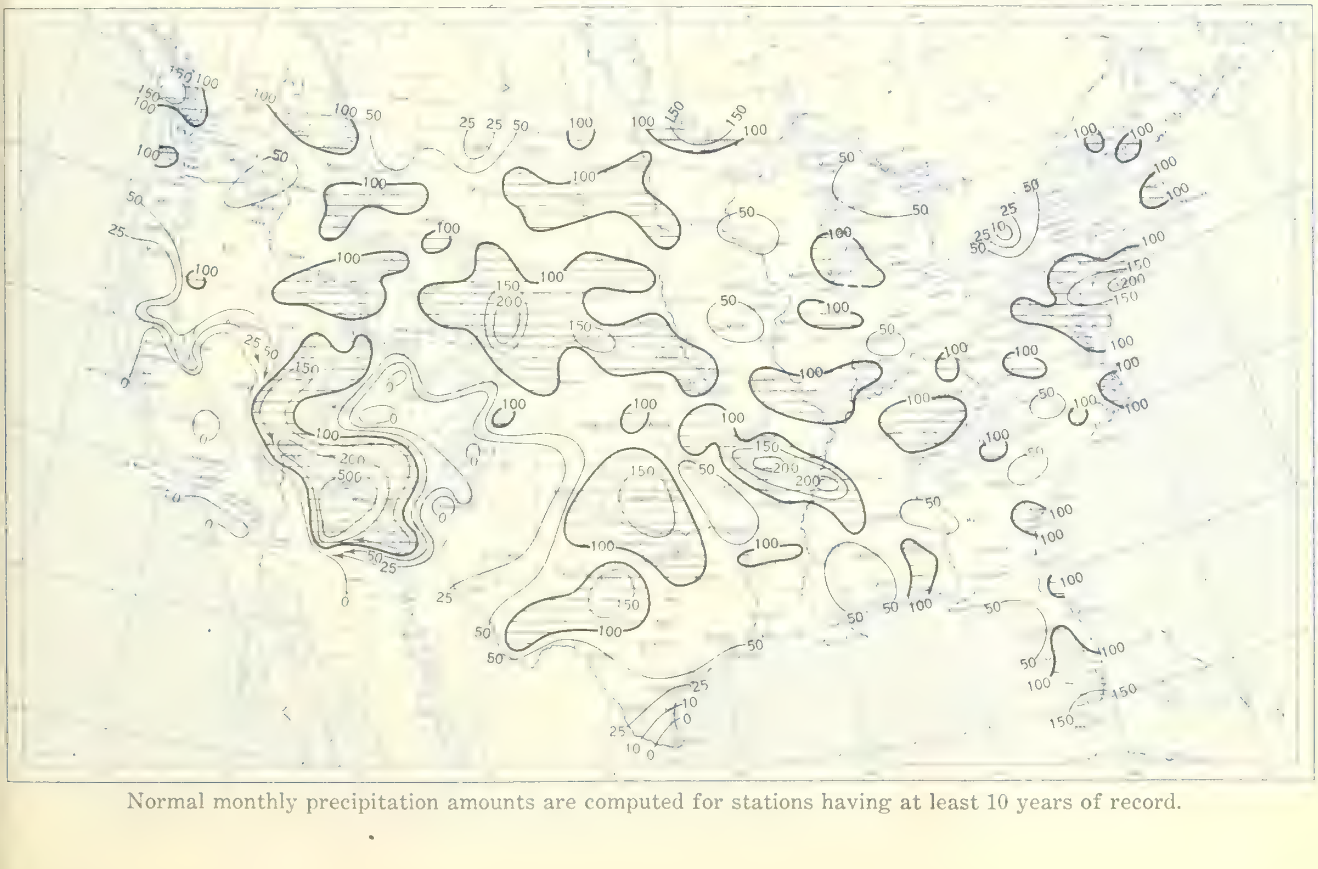


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), June 1955.

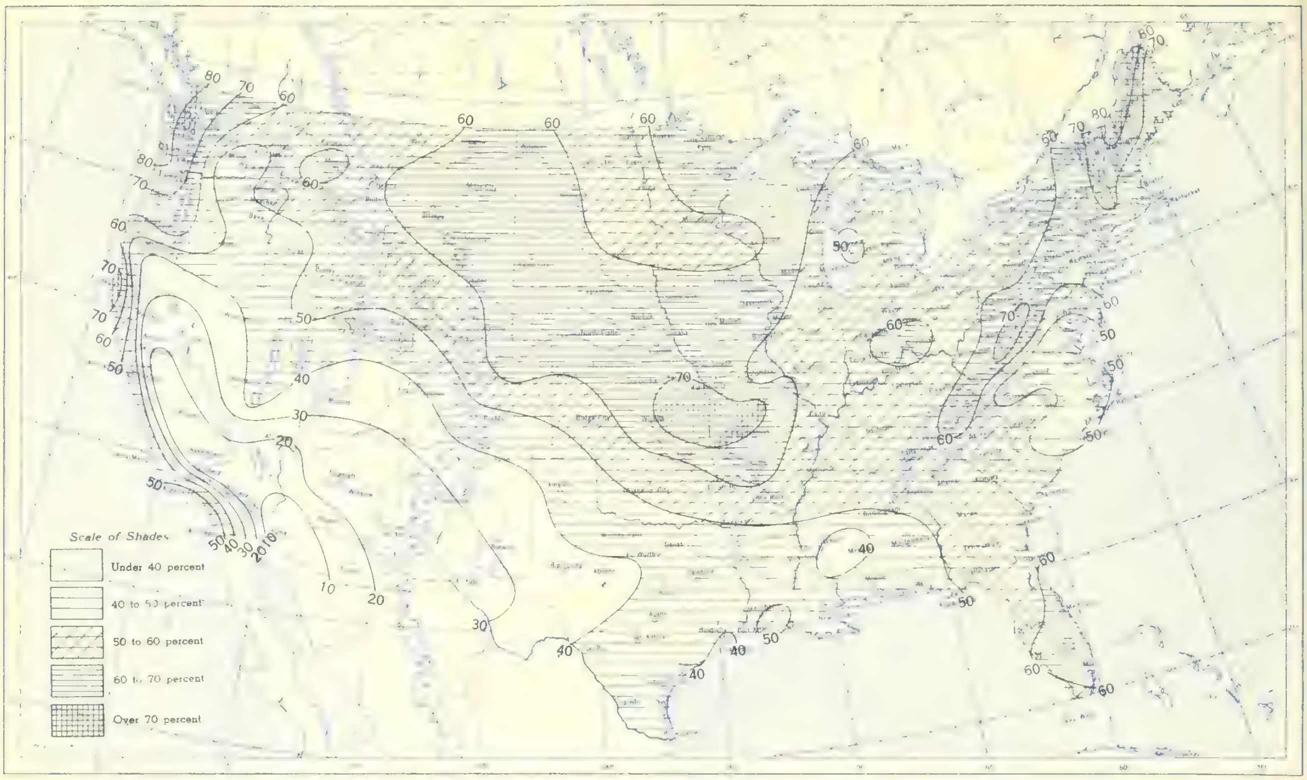


B. Percentage of Normal Precipitation, June 1955.

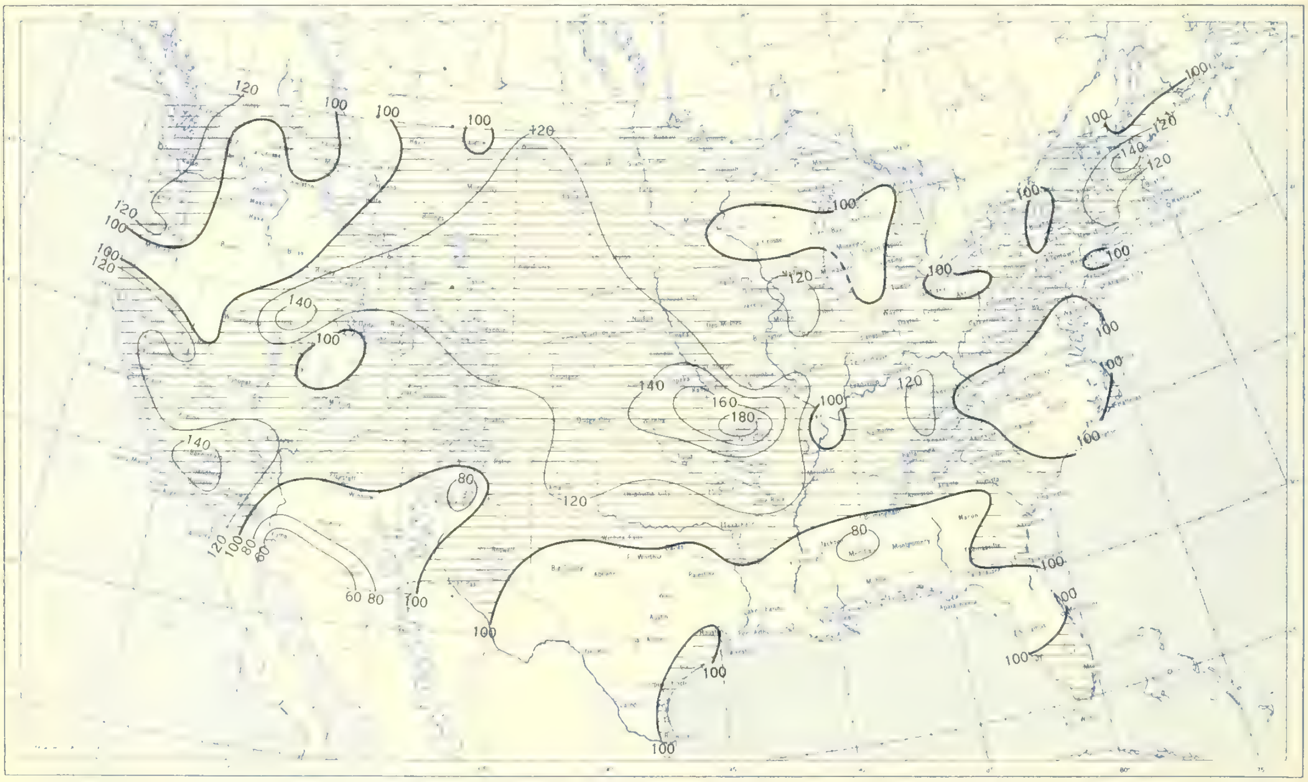


Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, June 1955.

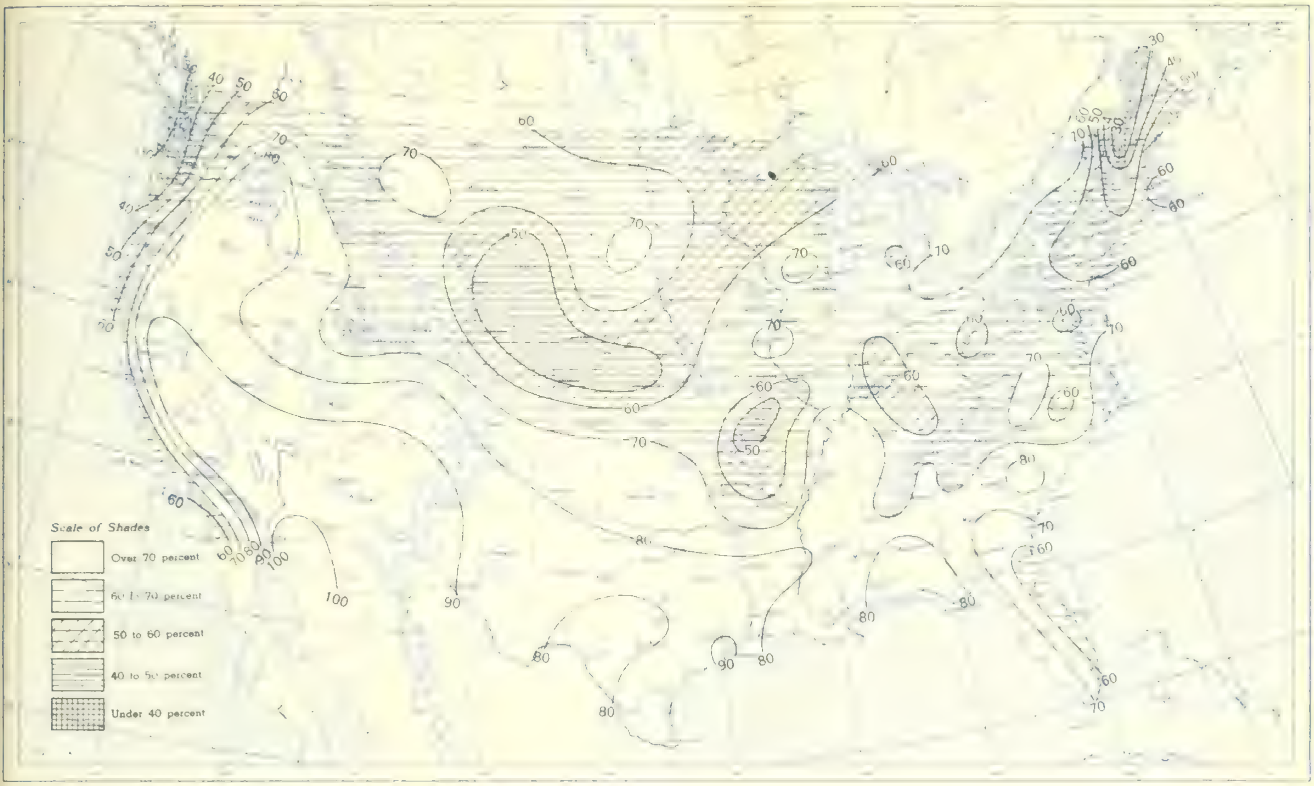


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, June 1955.

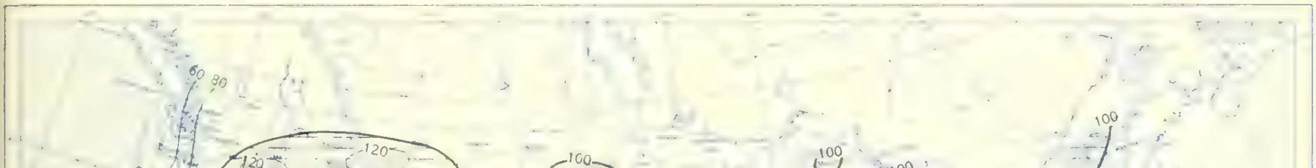


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, June 1955.



B. Percentage of Normal Sunshine, June 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, June 1955. Inset: Percentage of Normal Average Daily Solar Radiation.

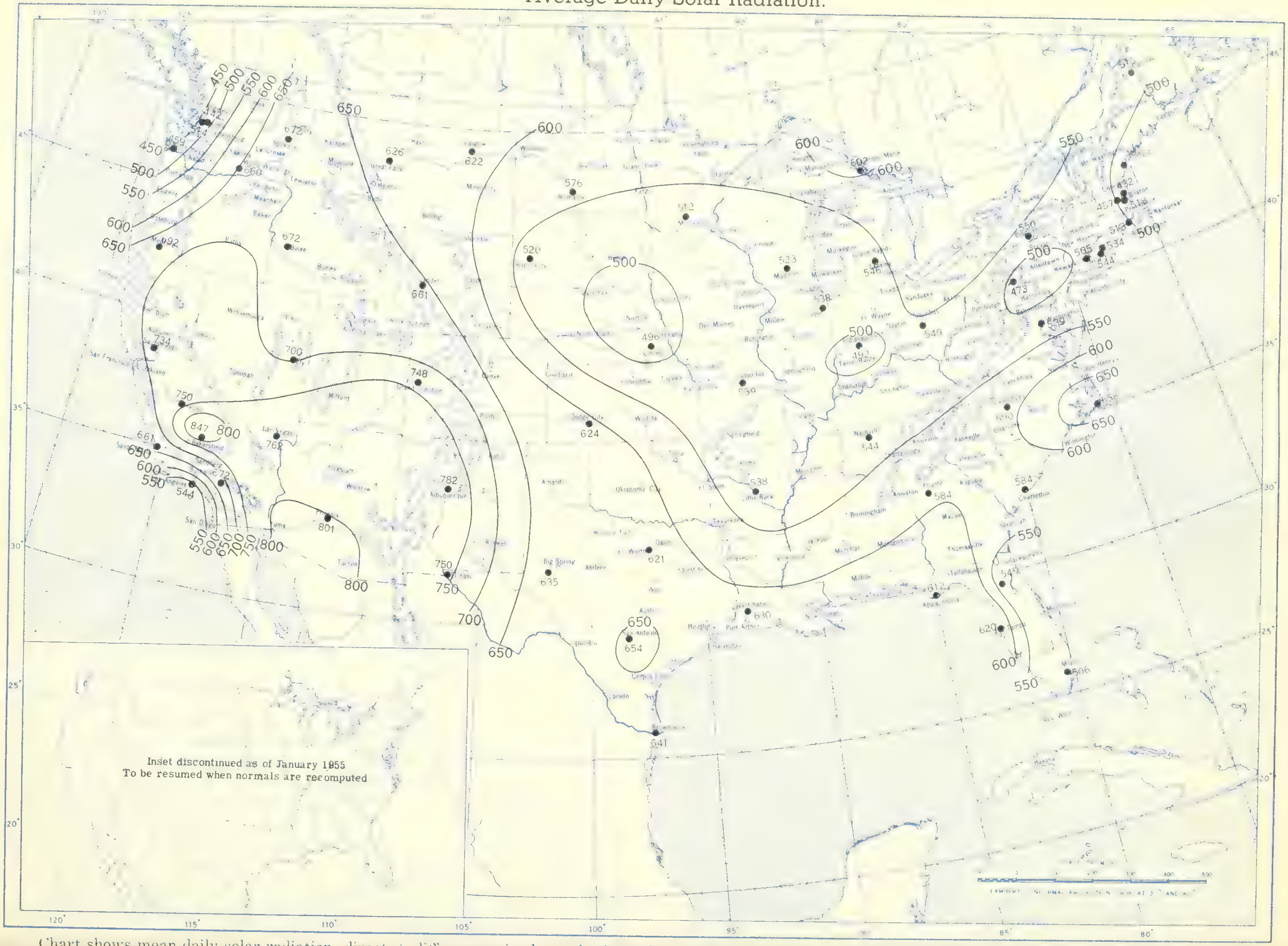
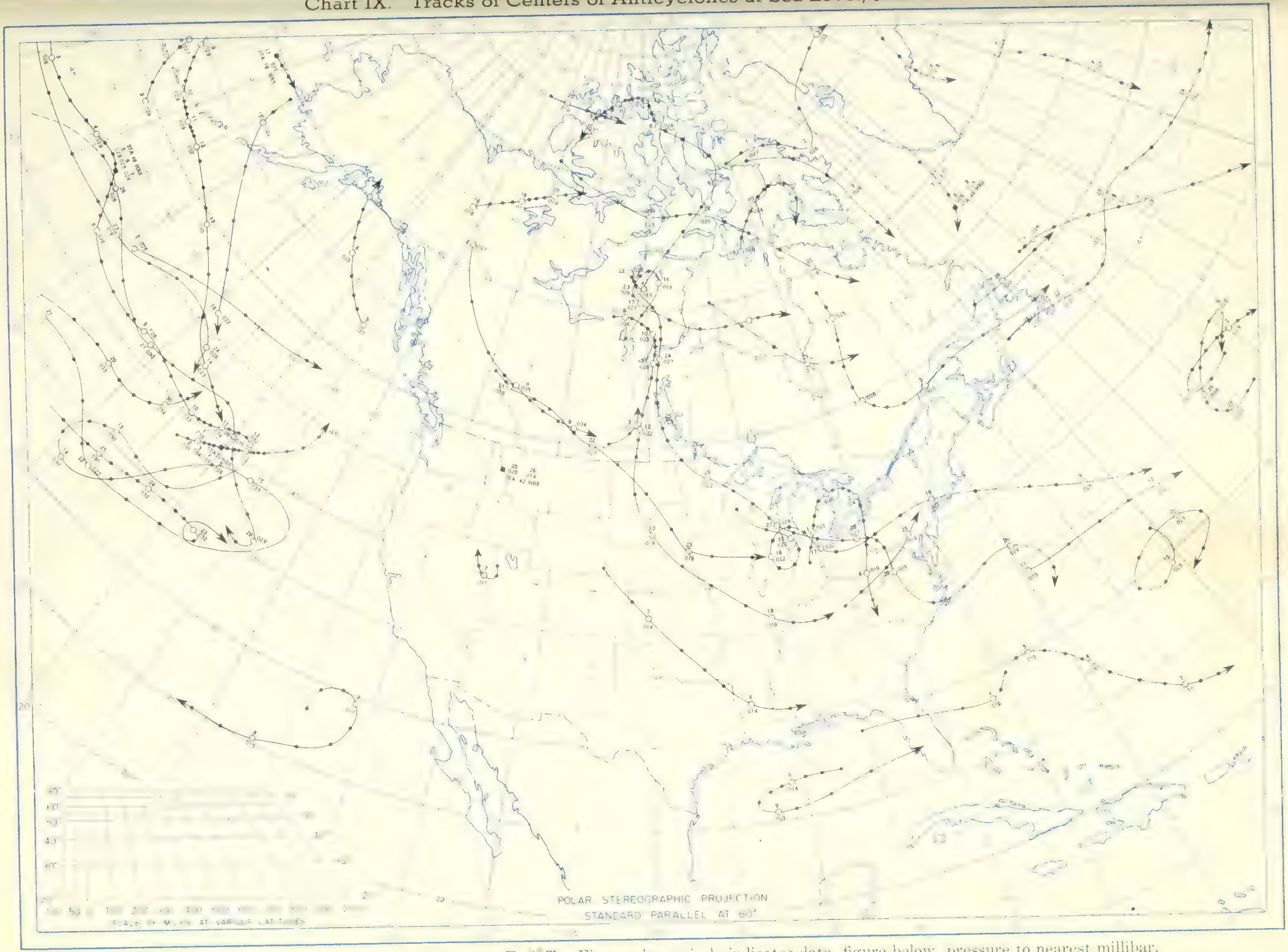


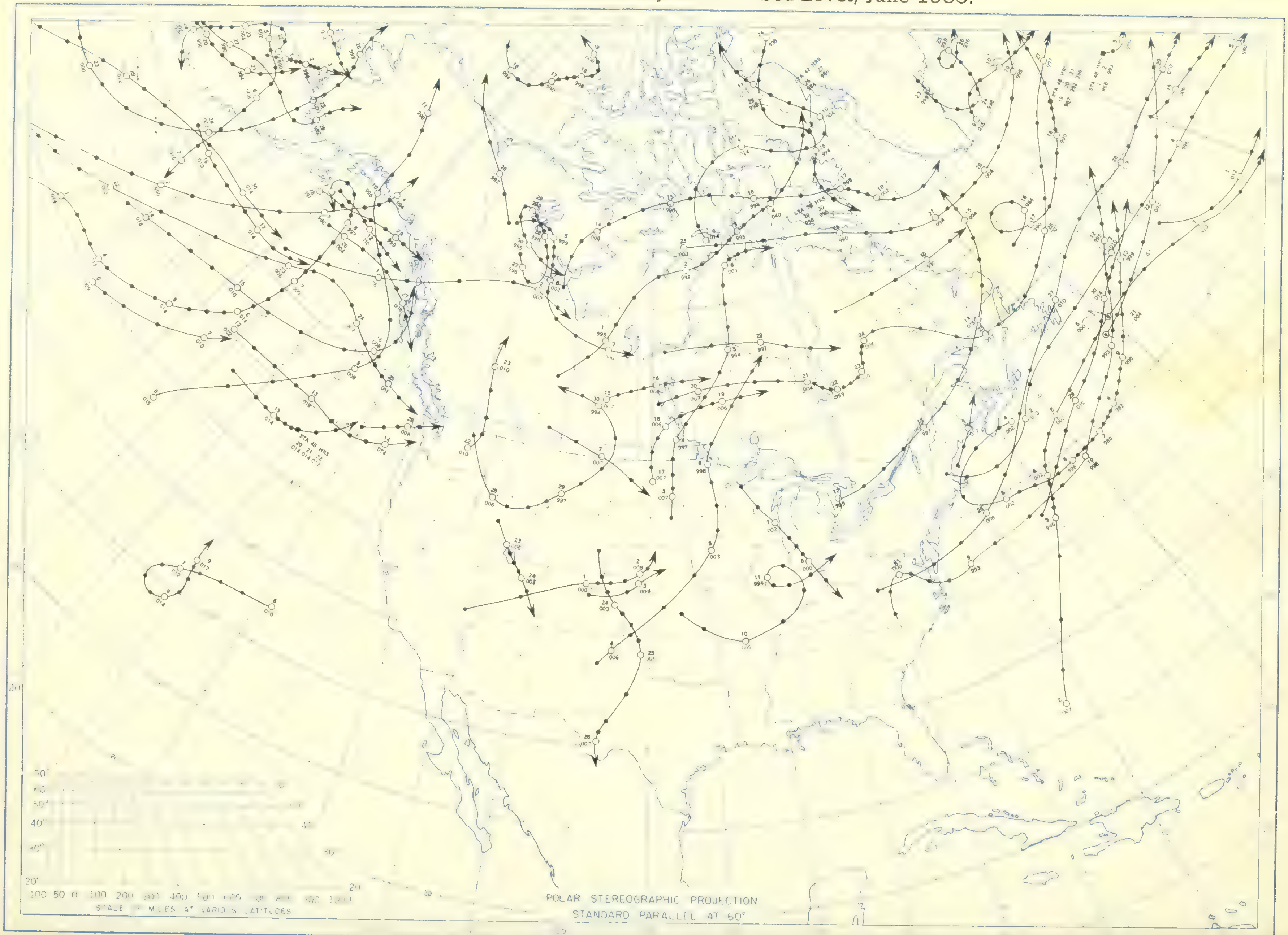
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.). Basic data for isoli

Chart IX. Tracks of Centers of Anticyclones at Sea Level, June 19


STA 48 HRS
STA 18 HRS
STA 42 HRS
STA 48 HRS
POLAR STEREOGRAPHIC PROJECTION
STANDARD PARALLEL AT 60°
SCALE OF MILES AT VARIOUS LATITUDES

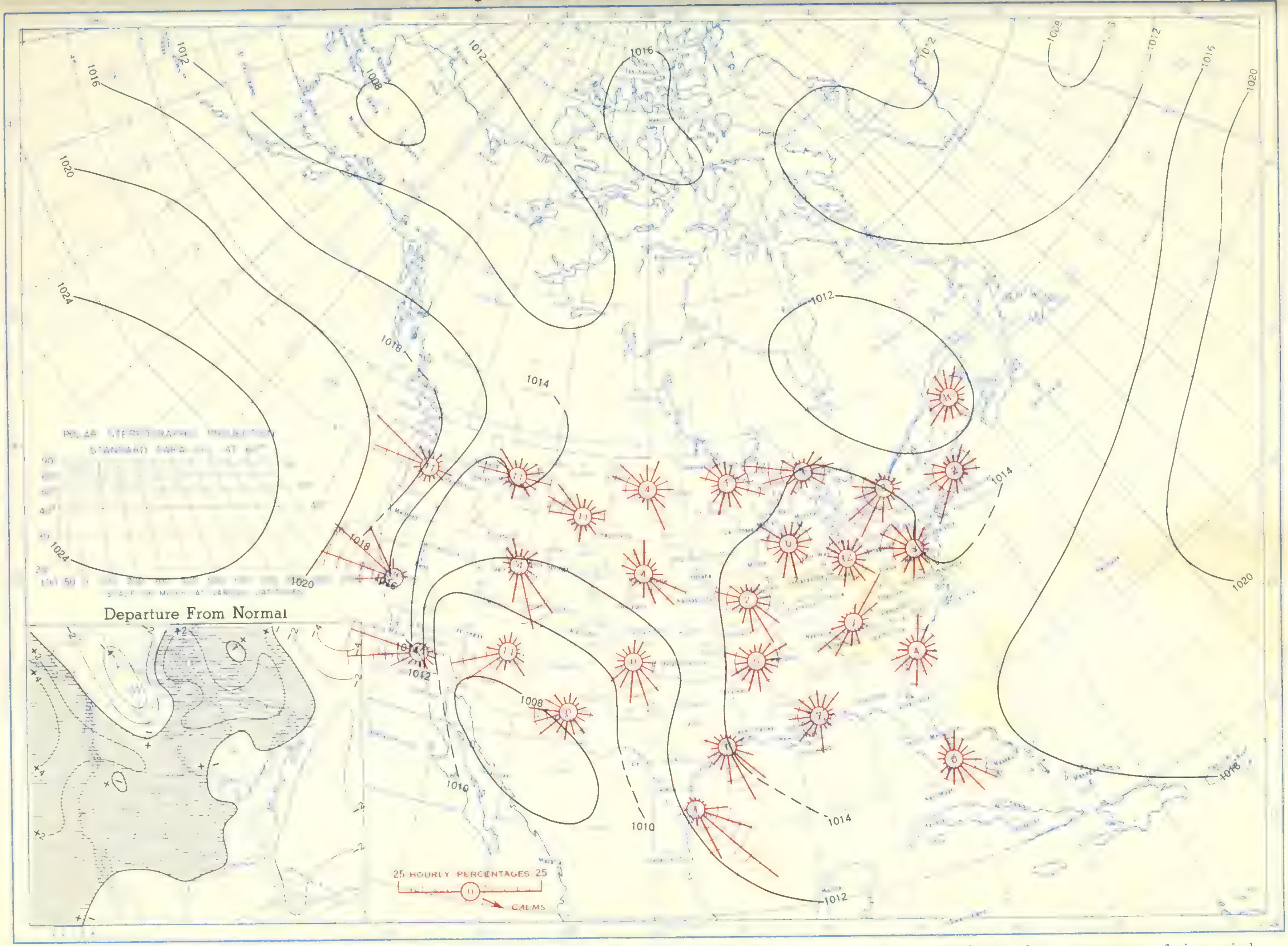
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, June 1955.



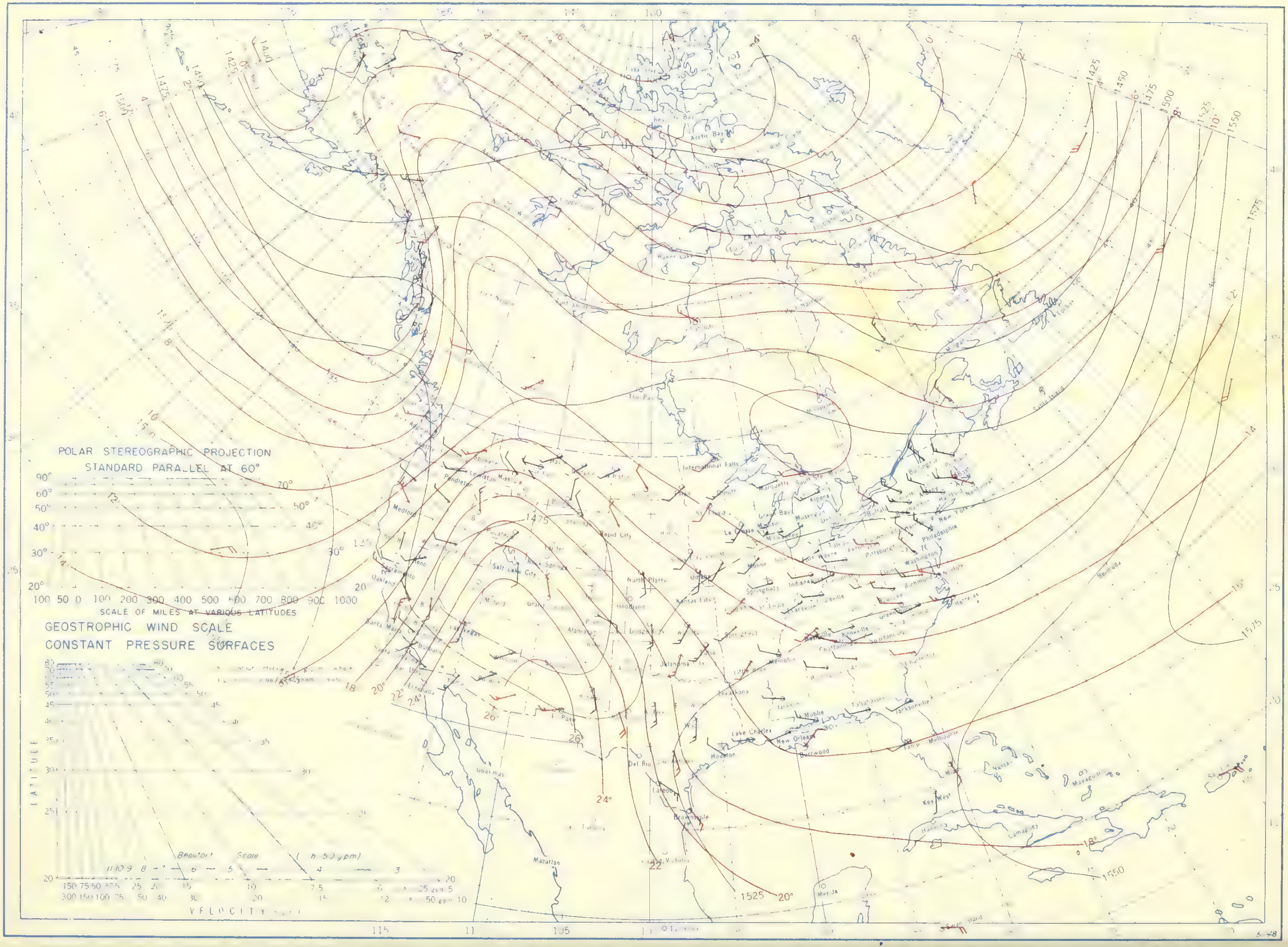
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Average Pressure (mb.) from Normal, June

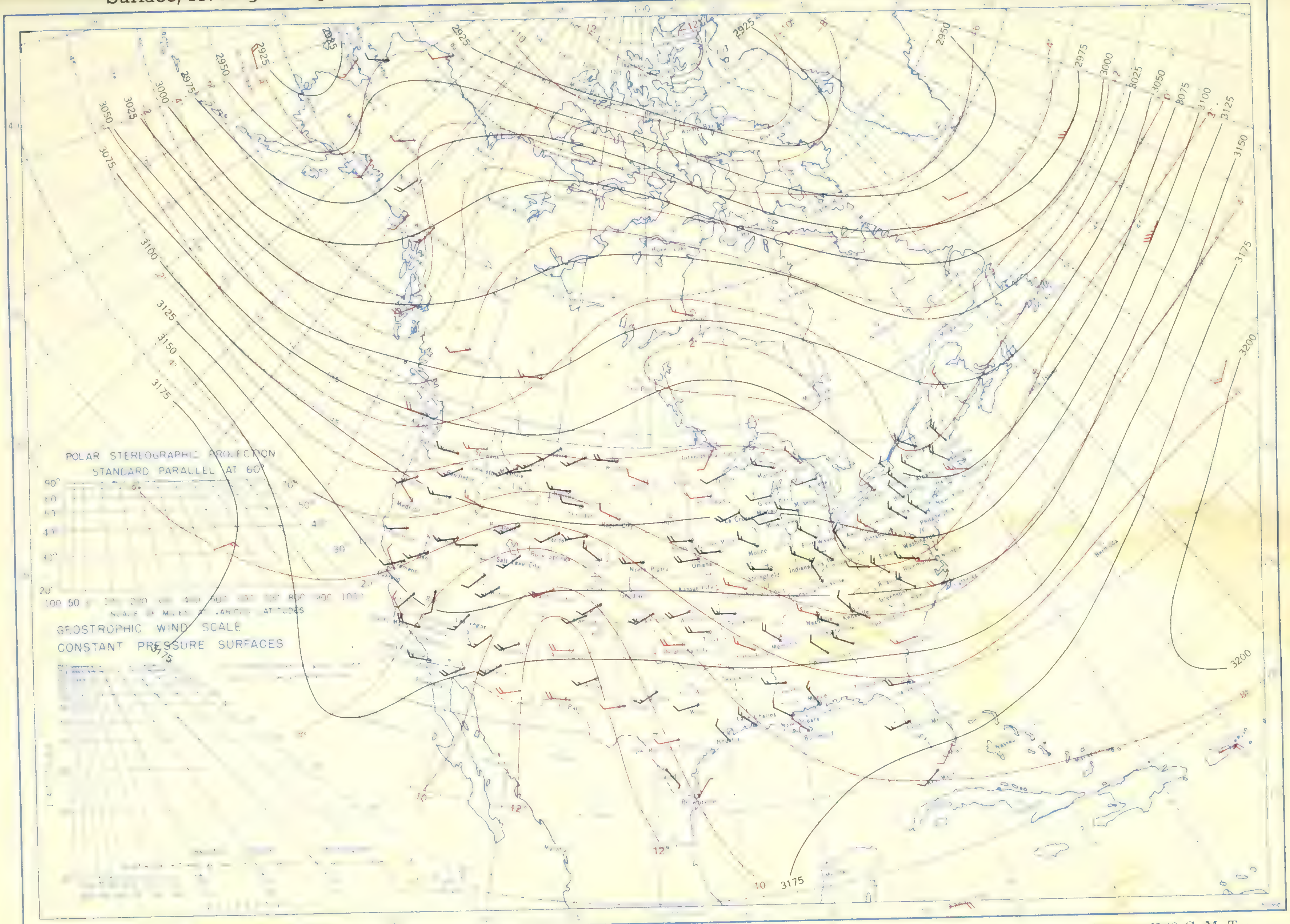


Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), June 1955.

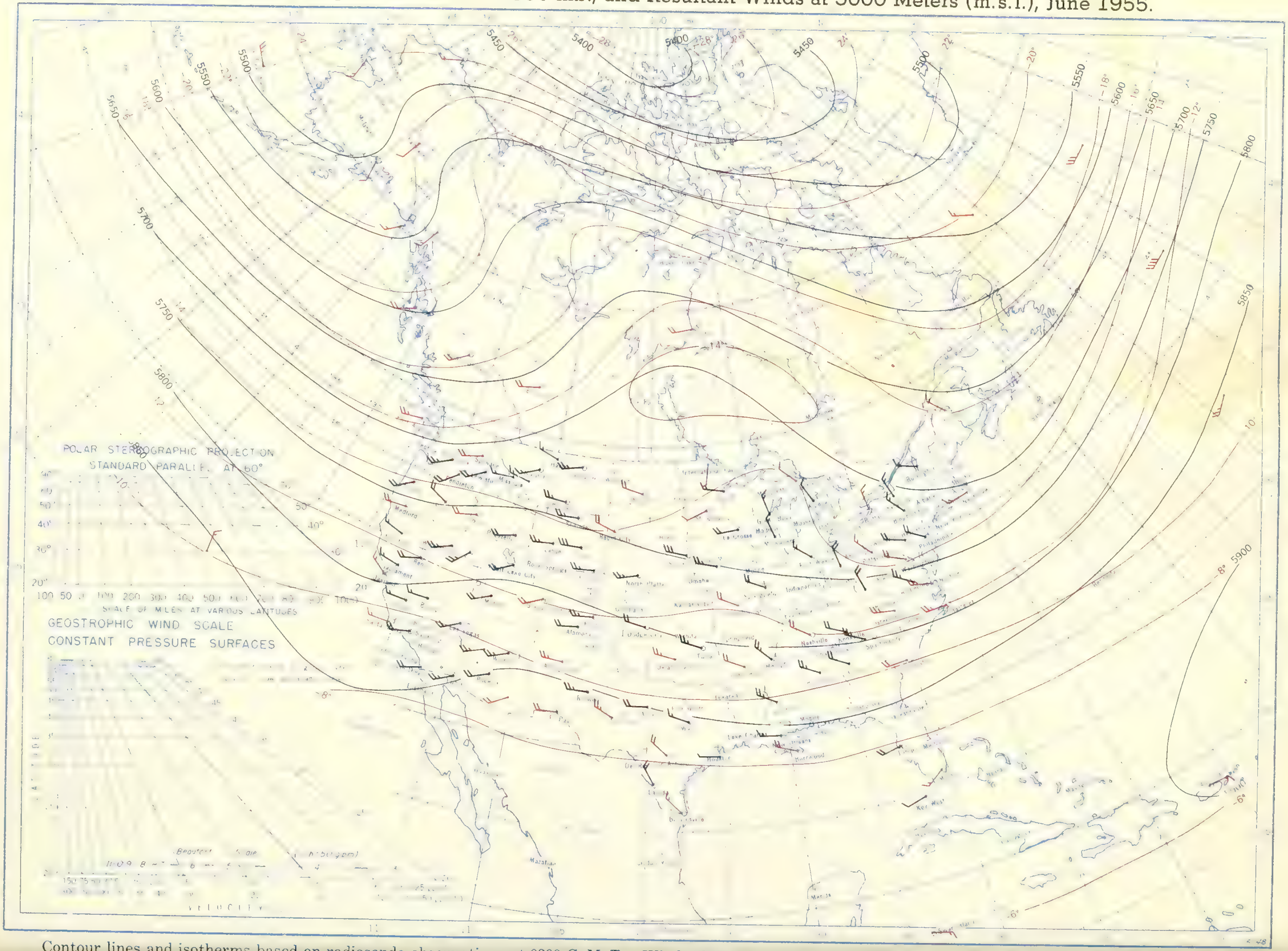


Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters



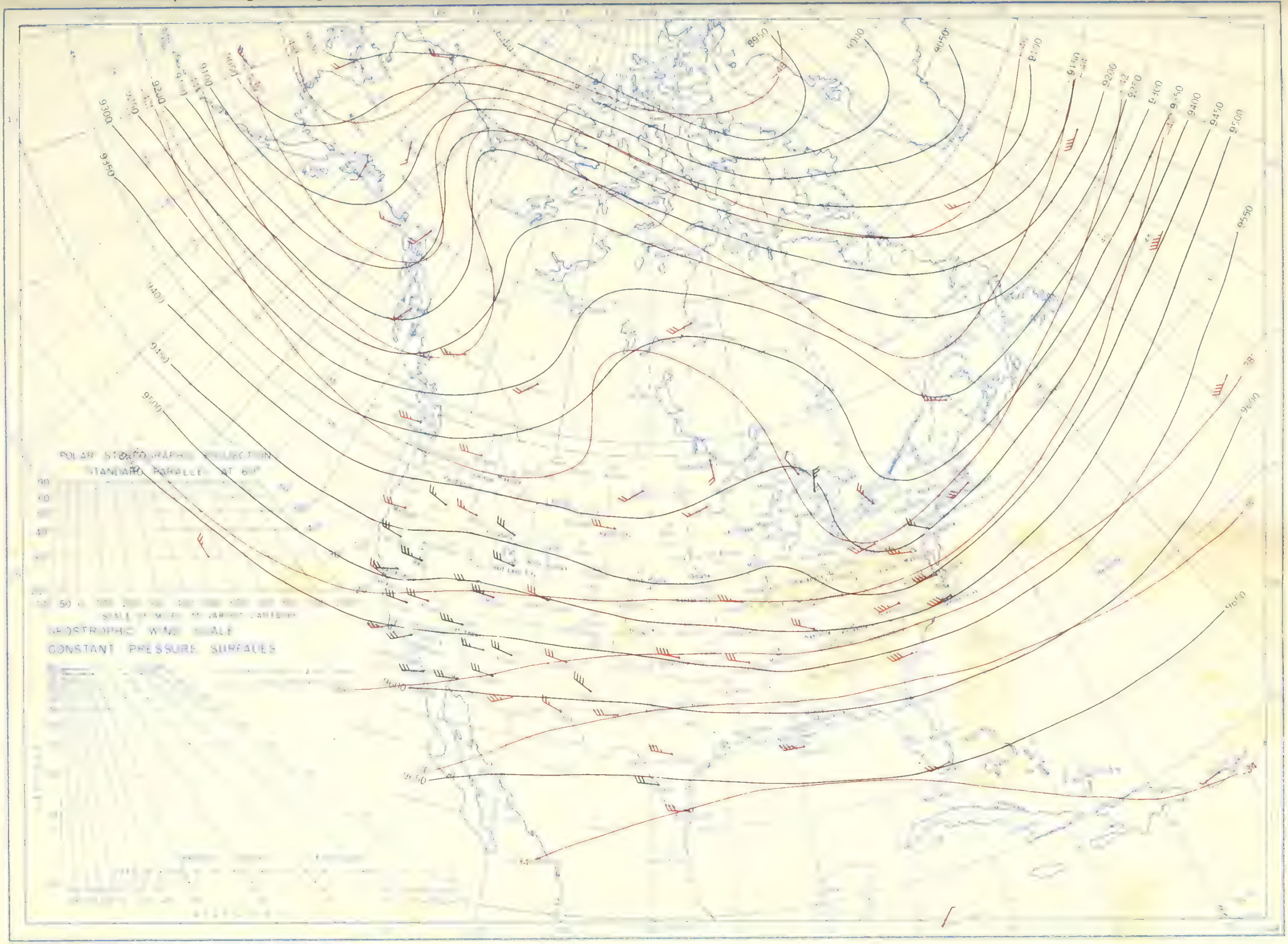
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), June 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot

Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), June



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JULY 1955
Volume 6 No. 7

ASHEVILLE: 1955

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NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

olume 6 No. 7

JULY 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

Persistent heat and high humidity in middle and rthern areas east of the Rocky Mountains featured e weather of July 1955. Temperatures were about asonal in the South, but remained at well-below rmal levels in the far West. Precipitation, of e usual thundershower type, was above normal over e major portion of the Country, although notably ficient in the central Great Plains and Northeast. understorms, often accompanied by damaging wind d hail, were unusually numerous west of the eat Lakes, in the South, and in the far South- st. Several damaging flash floods were also ported from the far West. Hot, dry weather used a sharp decline of some crops in the central eat Plains and Northeast.

TEMPERATURE.--Hot, humid weather east of the ckies, beginning during the closing days of ne, became well established during the first w days of July and continued uninterruptedly rough the remainder of the month except for a ief break in the Northeast on the 13th and 14th d in the North Central Interior about midmonth.

The persistent heat was responsible for the ghest average temperature and the greatest mber of days with 90° or above on record for ly at many stations. Some of the larger cities porting their highest average temperature for ly were: Chicago, Ill., 81.3°; Detroit, Mich., d Cleveland, Ohio, 79.1°; Baltimore, Md., 83.5°; iladelphia, Pa., 81.4°; New York City, 79.7°; rtford, Conn., 77.0°; and Richmond, Va., 81.3°. ations, other than most of those above, having e greatest number of days with 90° or above for ly included Fort Wayne, Ind., 20; Columbus, Ohio, ; Syracuse and Albany, N. Y., 14 and 19 respec- vely; Concord, N. H., 18; Boston, Mass., 14; rtland, Maine, 8; and Harrisburg, Pa., 21 days. so statewide averages were the highest on record r Pennsylvania and Delaware (previous records 1901), New Jersey and Maryland (previous records 1949). At a few stations in the Ohio Valley e temperature was above normal every day of the nth. The highest temperatures in most of this ea occurred during the last week and were cen- red over Iowa and eastern Nebraska. The tempera- re at Des Moines, Iowa, averaged 12° above nor- l for that week and maxima equaled or exceeded 0° on the last 5 days with a high of 105° on e 31st. On the same date Omaha, Nebr., reported 8° and Gannvalley and Midland, S. Dak., 110°.

In most of the far West July was the eighth con- cutive month with below normal temperatures. some sections the cool period was even longer. r example at Fresno, Calif., July, with an aver- e temperature of 76.2°, marked the fourteenth nsecutive cool month. Portland and Medford, eg., had their coolest July since 1909 and 1916 spectively. Winnemucca, Nev., recorded its solute minimum, 29°, for July on the 5th, and light to moderate snow was reported by several stations in the Cascade Mountains and northern Rockies early in the month.

PRECIPITATION.--The heaviest rains of the month fell in the Southern States, in nearly every one of which the greatest monthly totals exceeded 10 inches topped by 17.70 inches at Van Clene, Miss. Rains in these States were well distributed through the month, thereby maintaining good soil moisture and good to excellent crop prospects.

Rains were also frequent and plentiful west of the Great Lakes where frontal activity was greater than elsewhere. Statewide averages were three times the normal in Washington and twice normal in Oregon. Crops were good, and stock water generally ample.

In Arizona thunderstorms brought the rainiest July in 34 years. Phoenix had 4.19 inches, the most in 44 years and about six times the July normal of 0.70 inch. All of these rains came after the beginning of the summer thunderstorm period on the 10th. By the end of the month stock water was generally ample and crops greatly improved. New Mexico and western Texas also shared in the benefits of this thunderstorm activity.

In Oklahoma, Kansas, Nebraska, and eastern Colorado rainfall was well below normal and the corn crop was cut sharply, some beyond recovery.

Rainfall was also greatly deficient in New England, the Middle Atlantic States, and Lower Michigan. Baltimore, Md., measured only 0.30 inch for the month, a new low record for July. The average rainfall for New Jersey, 1.13 inches or 3.52 inches below normal, was also a July record for that State, the previous lowest average being 1.36 inches in 1910. Crops in the eastern portions of the Middle Atlantic States suffered considerable damage from the dry, hot weather and those in the western sections as well as those in Lower Michigan and New England needed rain badly at the end of the month.

DESTRUCTIVE STORMS.--One of the worst hailstorms in recent years occurred in Billings, Mont., and vicinity on the 6th. Some stones were reported to be 3.5 inches in diameter. Damage was estimated at $6,000,000. This storm also produced the heaviest 30-minute rainfall on record there, and on the same day the first verified tornado in that locality occurred about 10 miles east of the city.

Lightning was responsible for $505,000 losses in Green Bay, Wis., where several wood pulp storage warehouses burned on the 27th, and $500,000 damage in Jackson, Miss., where a transformer was struck on the 29th.

One of the month's worst flash floods occurred on the 9th and 10th in Sioux City, Iowa, causing losses estimated at $1,500,000.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

Section	Temperature								Precipitation					
			Monthly extremes								Monthly extremes			
	Average	Departure from normal	Station	Highest	Date	Station	Lowest	Date	Average	Departure from normal	Station	Greatest	Station	Le
	°F.	°F.		°F			°F.		In.	In.		In.		I
Alabama	80.1	-0.2	Demopolis Lock & Dam	102	6	Scottsboro	51	1	7.25	1.76	Fairhope	15.06	Danville	1.
Arizona	77.4	-2.8	Dateland	116	15	Fort Valley	27	5+	2.86	1.19	Young 12N	8.84	Ehrenberg	.
Arkansas	81.7	.7	Booneville	104	28	3 Stations	60	2+	3.65	.07	Carlisle 1SW	9.38	Sugar Grove	.
California	72.6	-3.1	Cow Creek	121	16	Twin Lakes	20	5	.16	.06	Mountain Pass	3.36	324 Stations	.
Colorado	69.4	2.0	2 Stations	105	13+	Spicer 2NE	19	8	1.43	-.59	Fairplay	3.86	Springfield 8SW	.
Connecticut	75.6	5.4	Waterbury City Hall	101	6	Falls Village	41	30	2.47	-1.43	Laurel Reservoir	7.99	Kent	.
Delaware	80.5	4.3	Milford	102	22	Georgetown 5SW	53	14	1.47	-3.14	Georgetown 5SW	3.60	Wilmington N Castle WB AP	.
Florida	80.9	-.4	Monticello	99	18	Secotan	60	9+	7.00	-.45	Naples	16.42	Melbourne	.
Georgia	80.2	-.1	Eastman	105	8	Blairsville Exp. Sta.	48	1	7.02	1.19	Tray Mountain	14.47	Brunswick CAA AP	1.
Idaho	66.6	-1.8	2 Stations	110	15	2 Stations	22	2.	.97	.36	Avery RS	3.96	Shoshone	.
Illinois	80.5	4.1	Harrisburg	109	28	Marengo	52	25	3.41	.18	Greenup	8.59	Galva	.
Indiana	79.2	3.6	Collegeville St.Jos C	102	21+	Wabash	53	13	4.80	1.47	Marion 2N	7.88	Knightstown Wtr.Wks.	1.
Iowa	79.8	4.9	2 Stations	109	30+	Marshalltown	52	24	3.29	-.32	Webster City	10.72	Fort Madison	.
Kansas	83.1	3.5	do	109	7+	McDonald	53	14	1.65	-1.30	Pleasanton	5.21	2 Stations	T
Kentucky	79.4	2.3	Princeton	100	27	Frankfort Lock 4	55	1+	4.14	.02	Shelbyville 2W	11.37	Hopkinsville	1.
Louisiana	81.2	-1.0	Lake Providence	101	10	New Iberia 5NW	62	3	9.01	3.46	Lake Arthur	17.21	Rodessa	1.
Maine	70.3	3.1	Millinocket Dam	100	10	2 Stations	40	13+	1.98	-1.37	Millinocket	4.59	Winslow	.
Maryland	79.8	4.5	Greenbelt	102	6	Princess Anne 1E	47	14	2.18	-2.03	Washington WB City	5.90	Parkton 2SW	.
Massachusetts	74.6	4.0	Framingham	102	28	West Cummington	42	30	2.49	-.98	Chestnut Hill	5.15	Haverhill	.
Michigan	74.3	5.3	2 Stations	104	27	3 Stations	36	11+	2.52	-.22	Watersmeet Fish Htchy	5.91	No Manitou Isl #2	.
Minnesota	74.0	4.2	Tracy Power Plant	107	31	Cloquet For.Exp. Sta.	38	10	5.75	2.43	Bird Island	12.12	Tyler	.
Mississippi	80.8	-.3	Moorhead	103	27	Pelahatchie	58	19	7.06	2.00	Van Cleave	17.70	Thyatira	3.
Missouri	81.4	3.7	Warrenton 1N	106	29	Hermitage	44	16	3.02	-.52	Summersville	7.31	El Dorado Springs	.
Montana	66.8	-1.6	Mildred	109	19	Jackson	23	2	2.49	1.10	Gold Butte 7N	7.18	2 Stations	.
Nebraska	80.1	4.6	2 Stations	110	7+	Fort Robinson	42	8	1.54	-1.55	Omaha No. Omaha AP	5.20	Tryon	.
Nevada	71.1	-2.4	Overton	114	14	Sheldon	23	1	.61	.22	Fish Creek Ranch	2.01	3 Stations	.
New Hampshire	72.1	4.0	Blackwater Dam	99	22	Fabyan	35	13	1.85	-1.81	Bucks Corner	4.88	Peterboro 2S	.
New Jersey	79.2	5.1	3 Stations	104	22+	Layton 3NW	44	13	1.13	-3.52	Bass River St. Forest	4.64	Princeton Water Wks.	.
New Mexico	71.8	-1.7	Jal	109	14	Gavilan	23	8	3.09	.83	Cloudcroft 1	10.48	Quemado	.
New York	74.1	4.7	3 Stations	103	22+	Old Forge 2SW	34	20	2.21	-1.62	Addison	7.36	Cold Brook	.
North Carolina	79.0	1.6	Mt. Gilead 4W	103	3	Celo 2S	44	1	5.64	-.37	Rocky Mount	14.21	Elizabeth City CAA AP	1.
North Dakota	71.4	1.8	Raub 10SSW	106	21	2 Stations	35	9	3.18	.71	Enderlin	9.40	Dunn Center 2SW	.
Ohio	77.4	3.7	Napoleon	103	27	APCO Ravenna Arsenal	47	20	4.19	.42	Portsmouth	9.66	Barnesville Wtr. Wks.	.
Oklahoma	84.2	1.9	2 Stations	107	10+	Kenton	56	19	1.65	-1.14	Durant	7.33	4 Stations	.
Oregon	63.0	-3.9	Huntington	109	16	Fremont	14	2	.93	.49	Valsetz	4.30	do	.
Pennsylvania	76.5	4.3	2 Stations	103	22	Kane 1NNE	39	12	2.45	-1.81	Meadville 1S	6.95	2 Stations	T
Rhode Island	74.1	3.6	Providence WB AP	96	5	Kingston	47	13	2.74	-.19	Kingston	3.79	Block Island WB AP	1.
South Carolina	80.6	.6	3 Stations	101	3	Long Creek 1N	50	1	5.67	-.18	Sassafras Mountain	11.28	Myrtle Beach CAA AP	1.
South Dakota	76.8	3.7	2 Stations	110	31	Deerfield Dam	31	8	2.34	-.08	Victor 5NE	8.49	Cedarbutte	.
Tennessee	79.4	1.5	4 Stations	100	26+	Gatlinburg 2SW	51	7	4.11	-.36	Jackson Exp. Sta.	12.97	Clarksville	.
Texas	82.4	.0	Presidio	108	8	Mount Locke	51	18+	2.51	.01	Orange	10.93	Bulverde	T
Utah	71.1	-.8	St. George PH	110	13	East Portal	26	8	.87	-.09	Cedar Breaks NM	4.16	Bluff	.
Vermont	71.1	3.2	Readsboro 1SSE	98	23	Lemington	39	12+	2.17	-1.62	Chittenden	4.95	Gilman	.
Virginia	78.7	3.3	2 Stations	102	18+	Burkes Garden	49	2	3.61	-.98	State Farm	11.93	Riverton	.
Washington	63.3	-3.4	Richland	109	15	2 Stations	26	1+	1.96	1.31	Quinault RS	7.62	Wenatchee	.
West Virginia	76.1	2.9	Berkley Springs	101	22	Cranberry Glades	44	1	3.47	-1.11	Pickens 1	8.95	Harpers Ferry	.
Wisconsin	74.8	4.7	Prairie du Chien	105	30	Long Lake Dam	36	24	4.95	1.53	Gurney	11.14	Blanchardville 2S	.
Wyoming	68.2	1.8	Morrisey	105	31	Kendall	20	8	.93	-.33	Keyhole Dam	3.91	2 Stations	.
Puerto Rico	78.5	.0	Juncos	97	26	Garzas Dam	51	2	5.41	-.76	Adjuntas	15.96	Santa Isabel	.

+ And also on a later date or dates.

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations)

CLIMATOLOGICAL DATA

State and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet, Hail: Total	Snow, Sleet, Hail: Max. depth on ground	Wind: Average hourly speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear	No. of days: Partly cloudy	No. of days: Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb.	°F	°F	°F.	°F.	°F		°F				°F.	%	In.	In.	In			In.	In.	M p. h.		M p. h.			0–3	4–7	8–10	0–10	%
ALABAMA																																
rmingham	610	992.2	1017.5	90	70	79.9	0.3	95	27	63	1	18	0	70	79	6.85	1.74	1.53	21	20	0.0	0	5.3	NE	37	S	28	2	13	16	7.3	46
bile	211	1009.1	1017.1	90	71	80.5	.2	94	4	67	19	20	0	73	85	11.38	2.41	1.94	17	24	.0	0	6.6	S	-	-	-	0	17	14	7.0	
ntgomery	198	1009.9	1017.2	92	72	81.9	.7	96	19	67	1	25	0	72	80	4.69	1.07	.86	19	18	.0	0	5.5	SW	34	E	14	1	19	11	6.8	61
ARIZONA																																
agstaff	6993	----	----	78	46	61.7	-3.5	84	14	32	5+	0	3	-		3.49	1.00	1.17	8	9	T	T	--		-	- -		16	9	6	3.7	--
oenix	1114	969.9	1007.1	99	74	86.7	-3.4	107	15	67	1+	29	0	59	45	4.19	3.49	1.97	9	8	.0	0	5.6	E	•35	SE	16+	22	7	2	2.7	89
escott	5014	846.9	1010.2	87	59	72.8	-3.2	95	12	50	6	9	0		-	2.50	-.21	.96	12	13	.0	0	8.8	SW	47	SE	17	15	9	7	4.2	83
cson	2558	922.5	1007.4	98	71	84.6	-1.6	108	8+	63	3	27	0	54	55	5.10	3.30	2.33	15	14	.0	0	6.8	ESE	39	E	21	11	9	11	5.1	73
nslow	4880	850.7	1007.3	92	61	76.5	.7	98	8+	51	7	25	0	44	39	1.05	.19	.39	9	9	.0	0	8.5	SW	•36	SE	22	20	6	5	3.4	
ma	199	1002.0	1006.2	104	76	90.2	-4.4	112	14+	68	2+	31	0	56	35	.34	.11	.31	2	2	.0	0	9.3	SE	28	E	23	22	5	4	2.5	88
ARKANSAS																																
rt Smith	458	998.3	1014.7	96	73	84.3	2.0	101	30	70	4+	28	0	72	71	1.39	-1.17	.52	5	10	.0	0	6.0	ENE	27	N	21	15	10	6	4.3	71
ttle Rock	257	1002.7	1015.3	93	74	83.4	1.5	99	10	69	1+	27	0	72	72	2.17	-.93	.74	6	5	.0	0	8.2	SSW	35	SW	2+	8	15	8	5.5	60
xarkana	361	------	-- - -	93	72	82.5	-.4	98	10+	69	19	28	0	-		4.71	.77	2.15	6	10	0	0	--	-	-	-	-	-	--			
CALIFORNIA																																
kersfield	489	992.6	1009.4	95	64	79.6	-4.6	104	15	56	4+	25	0	47	35	.00	-.01	.00	0	0	.0	0	7.2	NW	•21	NNW	15	30	0	1	.5	-
shop	4108	870.6	1008.1	97	53	74.8	-.7	104	13+	40	6	28	0	-		.04	-.06	.04	1	3	.0	0	--	-		--		23	8	0	1.6	-
ue Canyon	5280	839.1	1010.8	73	54	63.5	-4.3	85	14	41	6	0	0			.26	.23	.26	1	1	.1	T	--	-	-	-	-	27	4	0	1.3	-
rbank	699	985.4	1011.3	84	59	71.3	1.9	93	13	52	5	7	0	56	67	T	.00	T	0	0	.0	0	5.1	S	•15	SE	25	19	11	1	2.9	
reka CO	43	1014.6	1017.3	60	51	55.5	.9	64	17+	46	17	0	0	-		.21	.12	.08	4	0	.0	0	7.3	- -	22	NW	27	7	4	20	7.4	52
esno	331	998.6	1009.6	93	60	76.2	-5.9	102	13+	50	6	21	0	48	41	T	-.01	T	0	0	.0	0	7.0	WNW	24	NW	8	29	1	1	.6	97
s Angeles CO	312	- - -	----	80	61	70.5	-2.0	89	20	55	5	0	0	57	68	T	.00	T	0	0	0	0	5.3		17	W	5+	19	10	2	3.1	78
s Angeles	99	1008.1	1011.3	74	60	67.2	.4	79	20	53	6	0	0	57	73	.01	.01	.01	1	0	.0	0	7.1	WSW	%22	W	5	10	16	5	4.7	-
. Shasta CO	3544	891.0	1012.7	80	46	63.0	4.2	90	12+	37	17	4	0	-		.05	-.14	.05	1	1	.0	0	-	--		--		23	5	3	2.2	
kland	3	1013.5	1013.6	69	52	60.4	2.3	81	13	48	1+	0	0	51	76	T	-.01	T	0	0	.0	0	8.5	W	•25	WSW	2	20	8	3	3.0	-
d Bluff	341	998.3	1010.1	94	63	78.5	-4.7	105	14	55	5+	24	0	43	31	.08	.06	.08	1	1	.0	0	9.1	SSE	34	SE	15	27	4	0	1.1	98
cramento	17	1009.8	1010.3	90	55	72.5	2.1	102	13	49	6	16	0	49	51	.00	.00	.00	0	0	.0	0	9.7	SSW	31	SW	2	30	1	0	.5	98
ndberg CO	4517	861.5	1009.8	82	60	70.6	3.3	94	13	47	4	4	0	-	--	.00	-.02	.00	0	0	.0	0						29	1	1	.8	--
n Diego	19	1008.8	1011.2	74	63	68.3	1.0	80	18	60	4+	0	0	58	73	T	-.01	T	0	0	.0	0	6.3	WNW	15	SW	1+	12	13	6	4.9	57
n Francisco CO	52	---	- --	63	51	56.9	-2.0	70	7	49	21+	0	0	-	-	.02	.01	.02	1	0	[illegible]	0	11.8		31	W	2+	16	11	4	3.5	71
n Francisco	1	1012.9	1013.3	67	51	59.3	-1.1	76	13	49	7+	0	0	51	78	.01	.00	.01	1	0	[illegible]	0	13.4	WNW	36	WNW	25	24	4	3	2.7	
nta Maria	238	1004.7	1013.0	67	49	58.3	-3.9	73	2	43	6	0	0	50	79	T	-.03	T	0	0	[illegible]	0	7.3	WNW	•23	WNW	5	21	10	0	2.8	
COLORADO																																
amosa	7538	775.5	1016.4	82	46	64.3	.2	88	9	36	8	0	0		--	.67	-.20	.31	7	11	T	T		-		-	-	11	18	2	4.3	--
lorado Springs	6173	812.4	1010.6	88	57	72.8	1.6	94	4+	49	1	16	0	42	40	2.34	-.38	1.36	11	9	T	0	11.2	NNW	•35	SE	26	22	8	1	3.1	-
nver	5292	838.1	1010.0	90	61	75.5	2.7	99	10	53	1	20	0	43	38	2.99	1.63	1.42	10	6	T	1	9.2	S	34	SE	4	14	13	4	3.9	79
and Junction	4849	857.8	1008.6	93	66	79.4	1.2	99	14	57	8	28	0	39	43	.48	-.31	.46	2	7	.0	0	12.5	ESE	56	SE	19	24	5	2	2.2	86
eblo	4639	856.1	1009.8	94	61	77.5	2.6	100	6	54	1	26	0	46	39	1.27	-.54	.75	6	8	.0	0	9.3	SE	47	NE	22	17	11	3	3.4	86
CONNECTICUT																																
idgeport	7	1015.7	------	86	69	77.4	4.6	96	22	62	13+	9	0	-	-	1.42	-2.55	.77	6	6	.0	0		--	--	- -	--	15	9	7	4.5	-
rtford	169	1010.1	1016.0	89	65	77.0	3.2	98	5	54	30	16	0	65	70	2.55	-1.01	.82	10	7	.0	0	9.5	S	31	NW	2	11	13	7	5.1	68
w Haven	6	1015.5	1015.9	84	67	75.4	4.2	92	22+	57	13	3	0		--	1.81	1.85	.81	8	7	.0	0	6.1		18	E	30	13	9	9	5.0	74
DELAWARE																																
lmington	73	1012.9	1016.2	92	71	81.2	5.3	100	22	60	14	20	0	68	70	.16	-4.33	.13	3	2	.0	0	6.8	S		-		6	15	10	5.5	
DIST. OF COLUMBIA																																
shington CO	72	-----	- --	92	73	82.9	5.1	99	4+	66	13+	22	0	-	-	5.90	1.79	3.98	9	9	.0	0	- -	--	31	NW	23		--	-	--	-
sh. Nat'l. AP	14	1012.7	1017.0	91	74	82.1	4.8	98	22	64	14	18	0	69	68	2.32	-1.94	1.27	6	8	.0	0	8.6	SSW	38	NW	23	13	9	9	5.3	61
FLORIDA																																
alachicola CO	13	1015.7	1017.0	87	75	81.1	-.2	93	29	70	1	5	0	--	-	6.04	1.52	1.57	16	19	.0	0	5.8	- -	29	E	31	10	9	12	5.9	71
ytona Beach	31	1016.5	1018.2	89	71	80.0	.8	94	27	68	9	10	0	72	80	5.67	1.44	2.36	10	16	.0	0	7.5	E	•31	SSW	24	1	22	8	6.1	-
rt Myers	15	1016.7	------	90	72	80.6	1.4	94	15	69	1	20	0	-	--	8.76	.04	1.65	21	30	.0	0	5.9	---	•32	S	1	0	20	11	7.1	--
cksonville CO	18	--- --	------	90	74	82.0	.3	94	16+	70	23	21	0	-	-	10.57	2.68	3.19	18	-	.0	0	---	- -		---		-	--	--	-	-
cksonville	24	1017.1	1018.2	93	73	82.9	.8	96	6+	71	1+	28	0	72	75	5.53	-2.11	1.68	14	13	.0	0	7.7	SE	30	SE	8	4	18	9	5.9	51
y West CO	5	1015.4	1016.2	90	76	83.0	-.7	92	29	72	6+	22	0	--	-	2.71	-1.53	.70	16	9	.0	0	6.7	-	21	E	4	0	19	12	6.9	72
keland CO	214	--- -	------	90	72	80.8	-.4	94	26	68	11+	19	0	--		10.53	2.37	1.62	18	23	.0	0	5.5		-	--	.	1	18	12	6.7	[illegible]
ami CO	8	-	-----	86	75	80.2	-1.4	90	17	69	6	1	0	-		4.27	-.09	1.22	15	14	.0	0	9.7		34	S	20	3	17	11	6.3	[illegible]
ami	8	1015.9	1017.0	88	74	81.0	-1.6	93	28	71	6+	6	0	73	80	7.89	1.16	2.42	21	14	.0	0	9.0	ESE	31	SW	12	0	15	16	7.2	
ami Beach	9	- ----	- ---	86	76	81.0	-1.5	88	17+	71	5+	0	0	-		3.57	26	1.02	17	-		-	--	-	--	-	-	10	8	13	-	-
lando	106	1013.9	1018.2	91	71	81.2	-.9	95	27	68	1	25	0	72	81	6.88	.82	1.80	17	18	.0	0	6.9	S	•31	SSE	26	1	22	8	6.5	--
														AP	AP																	
nsacola CO	13	1014.7	--	88	75	81.3	-.3	95	29	72	13+	7	0	73	78	3.59	-4.00	1.93	14	14	.0	0	7.0		27	SE	31	-			-	70
llahassee	64	1014.9	1017.5	89	71	80.3	-.7	94	18+	70	1+	16	0	72	85	10.51	2.64	1.55	25	27	.0	0	4.8	S	- -		-	0	16	15	7.1	--
mpa	19	1016.1	1017.7	89	72	80.3	-1.4	92	3+	69	1+	14	0	71	81	11.90	3.79	2.88	24	28	.0	0	8.0	E	•41	E	20	1	17	13	7.0	57
st Palm Beach	15	1016.1	1017.1	90	75	82.1	.1	93	28	70	6+	21	0	73	76	3.39	3.31	1.42	12	12	.0	0	9.9	E	•37	ESE	23	3	13	15	6.8	
GEORGIA																																
lanta	977	976.8	1017.4	88	70	79.1	-.4	96	4	66	1	12	0	70	80	6.52	2.11	1.15	20	18	.0	0	6.6	SW	51	SE	1	2	11	18	7.1	52
hens	798	988.7	------	91	70	80.2	-.6	99	3	62	2	20	0	-	--	5.70	.89	1.57	16	19	.0	0	-	-	--	-		7	17	7	5.8	-
gusta	143	1010.4	1016.9	92	71	81.3	-.2	97	3+	58	1	23	0	72	77	3.96	1.25	1.77	10	18	.0	0	5.8	SE	27	NW	20	3	11	17	7.0	
lumbus	385	1003.5	1017.6	90	71	80.6	-.3	97	4	68	2+	20	0	--	--	12.15	6.23	5.32	23	21	.0	0	--		-	-	-	2	11	18	7.3	
con	356	1003.8	1017.1	92	71	81.5	-.9	99	4	68	1	24	.0	71	75	2.83	2.51	1.04	15	16	.0	0	6.1	WSW	31	SE	5+	7	5	19	6.8	56
me	637	994.5	------	91	69	80.0	.0	98	28	58	1	19	0	--	-	2.77	1.94	.97	13	17	.0	0					-	5	12	14	6.6	--
vannah	48	1015.0	1017.6	90	70	80.1	-1.3	95	17	64	1	21	0	73	83	7.25	.16	2.15	16	18	.0	0	7.3	SW	13	N	7	4	13	14	6.8	60
IDAHO																																
ise	2842	916.4	1010.1	86	56	71.3	-3.5	104	16+	41	2+	15	0	46	46	.39	.21	.25	6	4	.0	0	9.0	NW	37	SE	16	14	13	4	3.8	83
laho Falls 46W CO	4933	847.6	1011.2	86	51	68.3	-.9	99	15	34	8	12	0	-		.65	.21	.29	6	3	.0	0	9.1		a35	WSW	1	-	-			
laho Falls 43NW CO	4780	-----	--	86	50	67.7	-.4	99	15+	32	2	12	1		-	.67	.16	.23	9	-		-	8.6	-	a35	NNW	4					
wiston	1413	961.1	1011.6	85	56	70.5	-4.7	106	16	41	2	11	0	-		1.72	1.30	.87	12	7	T	T					-	12	8	11	5.1	
catello	4444	861.2	1010.4	86	54	70.0	-2.7	100	15	42	2+	12	0	45	44	.31	-.45	.13	7	10	0	0	11.2	SW	41	S	26	17	10	4	3.8	82
ILLINOIS																																
iro CO	314	1003.1	- ----	92	74	83.1	1.9	97	9+	71	7+	24	0	-	--	8.19	5.59	2.44	8	12	.0	0	6.1		43	NE	11	10	16	5	4.5	85
icago	610	993.2	1015.7	92	71	81.3	6.7	100	27	61	25	19	0	66	64	2.84	.11	.95	12	8	.0	0	6.2	E	33	SW	1	12	12	7	4.9	77
line	589	993.9	1016.1	91	70	80.5	5.0	100	27+	61	13	16	0	67	67	1.02	-2.20	.54	3	6	.0	0	8.9	S	31	NE	31	12	14	5	4.5	83
oria	654	993.9	1015.9	91	71	80.9	5.2	98	26+	65	12+	19	0	68	65	.65	-3.05	.41	6	9	.0	0	8.1		43	S	4	11	16	4	4.6	81
ringfield	587	992.6	1015.4	91	71	81.0	4.7	98	28	63	12	22	0	71	73	4.01	.90	3.44	5	8	.0	0	8.9	S	28	NE	5	8	17	6	5.0	80
INDIANA																																
ansville	383	1000.7	1016.1	92	71	81.8	3.6	97	9+	67	1+	26	0	71	75	2.99	-.01	.95	8	9	.0	0	6.0	SSW	30	NE	9	7	15	9	5.2	73
rt Wayne	801	986.1	1016.4	91	68	79.5	6.0	101	4	59	13	20	0	67	70	5.74	2.46	3.47	11	9	.0	0	9.0	SW	39	NW	8	11	12	8	4.9	75
dianapolis	793	987.5	1016.9	89	70	79.4	3.4	95	26+	63	13	13	0	70	76	5.24	2.21	2.03	11	13	.0	0	7.4	SW	33	N	4	9	11	11	5.8	64
uth Bend	768	988.8	1016.5	89	68	78.3	4.9	98	27	58	13	15	0	68	73	4.23	1.19	1.45	11	12	.0	0	8.0	SSW	•32	WNW	9	12	8	11	5.2	-

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days Max. 90° F. or above	No. of days Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days .01 inch or more	No. of days With thunderstorms	Snow, Sleet, Hail Total	Snow, Sleet, Hail Max. depth on ground	Average hourly speed	Prevailing direction	Fastest mile Speed	Fastest mile Direction	Fastest mile Date	Clear	Partly cloudy	Cloudy	
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10
IOWA																															
Burlington	694	990.9	1016.1	91	70	80.7	3.9	101	27	65	6	19	0	70	72	1.93	-1.50	0.58	6	9	0.0	0	7.4	S	30	W	16	11	17	3	4.2
Des Moines	948	984.1	1014.8	92	70	81.0	4.8	105	31	63	24	20	0	67	67	3.69	.75	1.53	6	9	T	T	12.7	S	52	W	8	12	13	6	4.6
Dubuque	1065	977.3	1016.0	88	67	77.3	4.0	99	30	57	11	12	0	67	69	4.22	.81	1.55	10	12	.0	0	----	---	--	---	--	8	16	7	5.3
Sioux City	1094	972.6	1012.6	93	70	81.5	5.2	107	31	60	24+	23	0	66	63	3.50	.58	2.24	6	9	T	T	13.9	SSE	57	W	13	13	15	3	3.9
KANSAS																															
Concordia CO	1375	963.8	------	96	73	84.5	4.5	103	7+	65	17	28	0	--	51	1.86	-1.53	.90	6	8	.0	0	8.7	---	31	S	11	17	10	4	3.6
Dodge City	2594	926.5	1011.6	93	70	81.5	1.6	101	8	62	14	23	0	60	54	1.79	-.86	.91	8	7	T	T	15.5	SSW	61	N	13	15	8	8	4.0
Goodland	3645	886.9	1010.7	96	64	80.2	4.6	103	9	54	1	30	0	53	46	1.03	-1.77	.65	5	7	T	0	11.7	S	*35	SSE	28	19	8	4	3.1
Topeka	879	979.0	1013.9	96	73	84.3	5.1	106	30	64	1	30	0	68	61	2.21	-1.04	1.47	8	5	.0	0	10.6	S	34	S	1	16	14	1	3.6
Wichita	1321	965.5	1012.8	96	72	84.0	3.1	102	29+	66	1+	28	0	65	57	1.30	-2.13	.92	5	5	.0	0	13.1	S	36	N	15	16	11	4	3.7
KENTUCKY																															
Lexington	978	981.6	1016.9	88	69	78.8	3.1	94	3	65	4+	10	0	70	79	5.73	1.48	2.16	12	14	.0	0	8.7	S	--	---	--	8	13	10	5.7
Louisville	485	997.4	1016.3	92	71	81.3	3.4	96	3+	67	12	23	0	71	75	3.30	.22	.82	15	15	.0	0	7.2	SE	45	NE	28	7	12	12	5.8
LOUISIANA																															
Baton Rouge	64	1013.2	1016.1	90	72	81.2	.1	95	26	70	2	19	0	73	82	6.19	.32	1.01	16	17	.0	0	5.2	E	--	---	--	1	15	15	7.2
Lake Charles	12	1014.6	1015.9	90	74	82.1	-.1	96	11+	72	14+	18	0	74	82	6.57	-.36	1.74	14	17	.0	0	6.4	S	*29	SE	20	0	16	15	7.5
New Orleans CO	9	1014.6	------	89	76	82.5	-.6	95	20	71	27	15	0	--	--	11.84	4.75	3.13	18	25	.0	0	4.2	---	21	SE	3+	0	17	14	6.9
New Orleans	3	1014.6	1016.4	89	73	81.3	-.5	93	7	71	1+	15	0	74	82	9.96	4.07	2.67	19	21	.0	0	6.6	S	*35	E	18	3	18	10	6.5
Shreveport	252	1006.4	1015.7	92	73	82.5	-1.1	97	9+	69	20	26	0	73	80	6.17	2.47	3.54	8	12	.0	0	7.7	S	--	---	--	10	9	12	5.8
MAINE																															
Caribou	624	991.5	1014.5	77	55	65.9	1.9	95	10	45	25+	3	0	56	71	2.46	-1.57	.82	11	6	.0	0	8.9	SW	*24	NW	21	7	13	11	6.3
Portland	61	1011.3	1015.3	83	59	71.0	3.2	95	21+	45	31	8	0	63	77	2.05	-.78	.65	7	4	.0	0	6.8	S	29	N	5	10	13	8	5.2
MARYLAND																															
Baltimore CO	14	------	------	92	75	83.5	5.0	100	5+	68	13+	21	0	--	--	.35	-3.59	.15	3	--	---	--	----	---	--	---	--	--	--	--	---
Baltimore	146	1012.1	1016.7	91	72	81.2	4.9	99	22	61	14	19	0	71	73	.30	-3.64	.26	3	5	.0	0	8.1	WSW	35	NW	24	13	10	8	4.8
Frederick	294	------	------	90	68	78.9	2.2	98	22	60	13+	18	0	--	--	4.71	1.06	2.30	10	3	.0	0	----	---	--	---	--	--	--	--	---
MASSACHUSETTS																															
Blue Hill Obs.	629	992.9	1015.8	84	65	73.1	3.9	94	22+	56	13	7	0	--	77	2.51	-1.20	.72	9	7	T	0	11.9	SW	32	NNW	2	10	13	8	5.0
Boston	15	1010.6	1015.2	86	68	77.2	5.0	98	23	59	30	14	0	65	70	4.28	1.10	2.39	9	5	T	T	11.5	SW	*43	NE	10	9	17	5	5.0
Nantucket	43	1015.8	1016.4	75	63	68.8	1.7	85	18+	55	31	0	0	65	88	1.52	-1.31	.51	7	6	.0	0	13.4	SW	29	S	16	7	10	14	6.2
Pittsfield	1153	973.6	1014.9	84	61	72.5	4.9	92	23	51	13+	5	0	--	--	2.20	-2.75	.92	7	6	.0	0	----	---	--	---	--	--	--	--	---
MICHIGAN																															
Alpena CO	587	994.2	------	82	63	72.2	4.8	96	1+	51	13	6	0	--	--	.20	-2.25	.17	2	7	.0	0	8.7	---	27	SE	30	14	13	4	4.1
Detroit	619	990.5	1016.7	90	69	79.1	6.0	100	27	57	25	17	0	64	63	1.10	-1.81	.48	7	10	.0	0	7.3	S	57	N	27	10	16	5	4.3
Detroit (Willow Run)	722	988.5	1016.2	90	67	78.6	5.1	100	27	58	25	18	0	64	66	2.71	.22	.82	10	6	T	0	8.9	SW	*39	NNE	27	10	16	5	4.5
East Lansing CO	856	------	------	90	66	77.8	6.7	97	27	55	25	18	0	--	--	3.99	1.71	2.23	8	7	.0	0	3.8	---	18	NW	4	--	--	--	---
Escanaba CO	594	993.2	------	80	63	71.8	4.9	92	4	49	11	1	0	--	--	1.33	-1.89	.47	9	9	.0	0	9.0	---	34	N	26	10	13	8	5.2
Grand Rapids	681	991.2	1016.1	89	65	76.9	5.4	97	26	56	25	14	0	65	68	2.03	-.62	.85	8	8	.0	0	5.9	W	34	SW	7	9	14	8	5.2
Marquette	677	988.8	------	80	62	71.1	5.0	93	14	50	11	5	0	--	69	3.28	.15	1.20	11	9	.0	0	7.1	---	26	W	3	7	15	9	5.9
Muskegon	627	993.2	1016.3	87	65	76.0	6.1	95	27	54	25	13	0	64	65	1.91	-.21	1.37	5	7	.0	0	----	---	--	---	--	11	15	5	4.6
Sault Ste.Marie	721	994.2	1016.8	83	58	70.2	6.3	92	21+	49	10+	5	0	61	74	3.48	.99	2.23	7	10	.0	0	7.7	WNW	31	S	15+	12	9	10	5.2
MINNESOTA																															
Duluth	1409	974.3	1015.4	80	59	69.4	3.0	91	31	50	24	4	0	61	77	6.81	3.17	1.93	12	13	T	T	11.8	ESE	38	NW	3+	9	10	12	5.9
Intern'l Falls	1179	971.9	1014.4	82	58	69.7	3.9	92	19+	44	9	5	0	61	74	4.69	1.25	2.73	11	8	T	0	7.4	---	--	---	--	9	12	10	5.7
Minneapolis	830	982.1	1014.7	89	68	78.0	3.9	100	26+	60	24	17	0	65	68	7.10	4.43	4.07	11	11	.0	0	11.7	SE	42	W	7	12	9	10	5.1
Rochester	1017	978.3	1014.8	88	66	77.2	5.4	100	28+	57	11	13	0	67	74	3.72	.25	1.30	8	10	T	0	9.7	S	--	---	--	11	12	8	4.9
St. Cloud	1034	976.6	1013.9	86	64	74.7	4.1	98	26+	53	24	10	0	65	74	8.00	4.95	1.99	13	15	T	0	7.2	SE	--	---	--	13	8	10	5.2
MISSISSIPPI																															
Jackson	315	1004.6	1016.3	91	71	80.5	-1.6	96	10	67	1+	23	0	72	81	13.13	8.52	3.04	15	21	.0	0	5.1	S	31	SW	17	5	14	12	6.3
Meridian	294	1003.4	------	92	70	81.0	.1	96	11	65	1	24	0	--	--	6.57	.61	1.54	14	16	.0	0	----	---	--	---	--	2	15	14	6.7
Vicksburg CO	234	1007.4	------	89	73	81.0	-.5	94	10+	70	2+	17	0	--	--	8.07	4.11	2.40	15	15	.0	0	6.2	---	26	SW	3	6	12	13	5.9
MISSOURI																															
Columbia	778	987.1	1015.1	92	71	81.4	3.6	100	28	66	13+	23	0	70	71	2.77	-.24	1.82	6	8	.0	0	6.3	SSE	30	SE	5	17	10	4	3.7
Kansas City	741	980.4	1014.3	95	76	85.4	4.5	102	28+	66	1	28	0	68	59	.93	-1.90	.45	3	6	.0	0	10.1	S	36	N	18	17	13	1	3.6
St. Joseph	809	------	------	94	72	83.2	3.1	105	30	64	6+	25	0	--	--	3.65	.56	3.23	5	7	T	T	----	---	--	---	--	--	--	--	---
St. Louis CO	465	995.6	------	92	74	83.2	2.6	97	27	68	23	23	0	--	--	5.69	2.78	2.26	9	14	.0	0	7.6	---	36	SW	4	10	13	8	5.4
St. Louis	552	995.6	1015.6	94	73	83.4	3.7	100	28+	67	15	26	0	70	69	2.97	.39	1.13	10	9	.0	0	6.7	SSW	--	---	--	11	14	6	4.7
Springfield	1265	968.8	1015.5	91	70	80.1	2.6	98	29	65	23	21	0	70	76	4.12	.95	1.18	12	12	.0	0	10.5	S	56	NW	23	12	10	9	4.7
MONTANA																															
Billings	3568	889.9	1010.6	85	58	71.7	-1.6	104	18	42	2	12	0	53	56	1.41	.27	.89	9	5	1.0	1	9.9	NE	58	NW	25	16	6	9	4.4
Glasgow CO	2090	937.7	1011.1	87	60	73.2	.4	106	20	46	3	11	0	53	56	2.60	1.13	1.16	11	10	.2	T	9.4	ESE	--	---	--	15	7	9	4.7
Great Falls	3664	887.2	1011.6	78	56	67.0	-2.6	97	16	42	3	7	0	49	58	4.32	2.97	1.26	12	12	T	T	11.1	WSW	50	NW	25	11	10	10	5.1
Havre CO	2488	924.5	1011.8	80	57	68.7	-2.6	101	16	42	3	7	0	54	65	4.99	3.52	1.69	12	5	.0	0	7.7	---	40	SW	18	12	6	13	5.2
Helena	3893	873.0	1012.1	79	52	65.6	-2.4	96	15	38	2	6	0	51	64	2.70	1.72	1.01	16	16	.0	0	8.0	WSW	52	W	25	11	10	10	5.5
Kalispell	2965	------	------	77	50	63.6	-2.4	95	17	36	3	3	0	--	--	1.32	.16	.39	10	8	T	T	----	---	--	---	--	8	11	12	5.7
Miles City	2629	928.5	1010.9	91	61	76.0	1.0	106	20	47	2	16	0	54	--	.73	-.68	.33	8	8	T	T	10.0	SE	*37	WNW	7	18	6	7	3.6
Missoula	3200	900.8	1013.3	79	51	65.1	-3.3	97	31	38	8	8	0	50	63	2.49	1.66	.97	10	7	T	T	6.1	NW	45	S	9	8	13	10	5.4
NEBRASKA																															
Grand Island	1841	947.5	1012.0	94	70	82.0	3.1	103	7	60	17	24	0	62	54	1.30	-1.33	.89	6	7	.0	0	14.3	S	-	---	--	20	10	1	2.7
Lincoln CO	1184	------	------	94	73	83.3	4.1	104	30+	62	16	23	0	--	--	.61	-2.49	.51	6	2	.0	0	9.6	---	49	W	22	21	10	0	2.6
Norfolk	1544	958.0	1012.5	93	69	81.2	5.0	105	31	59	16+	20	0	65	58	2.15	-.88	.84	6	8	T	T	----	---	--	---	--	14	14	3	3.8
North Omaha	1323	966.5	------	91	70	80.4	---	103	30	62	1+	20	0	--	--	5.20	----	2.51	7	10	T	0	----	---	--	---	--	--	--	--	---
North Platte	2779	914.3	1010.5	93	65	79.3	3.5	103	29	54	1	23	0	59	54	.42	-1.98	.16	5	10	.0	0	11.4	SSE	35	S	29	18	10	3	3.3
Omaha	978	974.9	1013.4	94	72	82.7	4.2	107	31	64	1+	23	0	67	62	4.06	.72	1.80	6	6	T	0	11.5	SSE	46	N	13	15	16	0	3.4
Scottsbluff	3950	878.1	1010.0	91	61	76.2	1.6	99	31	50	8	23	0	55	54	1.06	-.39	.22	9	16	T	0	9.8	ESE	--	---	--	19	8	4	3.5
Valentine CO	2581	921.4	------	93	65	78.7	3.4	106	31	52	16	23	0	--	--	.71	-1.99	.29	6	11	T	0	9.1	---	38	SW	7	16	12	3	3.4
NEVADA																															
Elko	5075	843.9	1011.4	87	49	67.9	-2.3	99	14+	34	7	14	0	40	39	.57	.20	.20	4	5	.0	0	5.8	WSW	*36	SSE	15	17	10	4	3.7
Ely	6257	809.3	1011.8	84	47	65.2	-3.2	93	14	31	7	6	1	35	38	.47	-.08	.25	6	6	.0	0	10.1	---	47	S	4	17	10	4	3.5
Las Vegas	2162	942.8	1005.6	101	73	87.2	-3.3	109	16	63	7	31	0	41	25	1.55	1.09	1.29	5	9	.0	0	12.5	SW	*44	S	14	22	7	2	2.0
Reno	4397	860.8	1011.7	87	46	66.7	-2.9	96	18+	35	5+	15	0	39	42	.35	.12	.26	5	4	.0	0	7.6	WNW	34	W	5	21	8	2	2.1
Winnemucca	4299	865.9	1010.2	88	48	68.2	-6.0	100	14	29	5	17	1	36	32	.07	-.24	.05	3	0	.0	0	8.5	---	38	S	21	17	8	6	3.2
NEW HAMPSHIRE																															
Concord	339	1004.7	1015.5	88	60	74.1	5.1	98	21	48	31	18	0	62	69	.96	-2.61	.67	6	5	.0	0	3.3	NW	21	NW	5	11	13	7	5.0
Mt. Washington	6262	812.0	------	60	48	53.6	4.3	69	9+	40	11+	0	0	--	86	2.69	-3.67	.66	10	2	T	0	20.9	W	%82	NNW	21	5	10	16	7.2
NEW JERSEY																															
Atlantic City CO	8	1014.2	------	81	71	76.0	2.4	90	18	65	13	1	0	--	--	2.29	-1.49	2.19	5	4	.0	0	14.2	---	36	W	24	10	16	5	4.8

See footnotes at end of table.

CLIMATOLOGICAL DATA

e 2–Continued

ate and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover , tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days Max. 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days 01 inch or more	With thunderstorms	Snow, Sleet, Hail Total	Max depth on ground	Average hourly speed	Prevailing direction	Fastest mile Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft	Mb	Mb	°F	°F	°F.	°F	°F		°F				°F	%	In.	In.	In.			In.	In.	M p. h.		M p h			0–3	4–7	8–10	0–10	%
EW JERSEY (Cont'd.)																																
rk	11	1014.8	1016.2	90	71	80.5	5.2	101	5	63	14	17	0	66	65	1.14	-3.06	0.82	4	3	0.0	0	10.2	SSW	•23	NNW	6	13	7	11	5.4	-
ton CO	56	1008.8	1015.5	90	71	80.5	5.2	99	22	62	13	18	0		--	.82	-3.24	.59	5	3	0	0	8 0	-	22	S	5	12	11	8	4.9	71
EW MEXICO																																
iquerque	5310	849.3	1009.8	90	64	77 0	-2.0	99	9	60	7+	17	0	50	43	1.60	.17	.76	8	8	T	T	8.6	SE	43	SE	9	10	15	6	4.8	75
ton	4969	846.6	1012.0	87	60	73.6	-.5	96	6	56	2	11	0	--		1.12	1.44	.37	10	7	0	0	--		-			17	10	4	3.8	--
ell	3612	893.0	1011.2	92	65	78.2	.8	102	1	58	18	21	0	59	64	2.25	.44	.90	14	13	T	T	8 9	-	59	NW	15	9	10	12	5.8	--
EW YORK																																
any	277	1011.5	1015.4	90	63	76.5	5 1	98	22	51	13	19	0	63	67	.86	2.44	.41	7	7	.0	0	6 7	S	29	W	2	10	14	7	5.0	73
ghamton	1601	958.7	1016.8	86	63	74 5	5.4	95	22	55	13+	5	0	61	67	.83	-2.99	.36	10	8	.0	0	10.1	WSW	33	SW	23	6	16	9	5.7	78
falo	693	989.2	1017.0	87	65	76.0	5.4	94	29	54	13	13	0	62	64	2.13	-.30	1.09	5	5	.0	0	12.2	SW	36	SW	23	10	18	3	4.6	81
York CO	10	1004.8	-----	88	72	79.7	5 1	97	22	65	14	11	0		-	37	3.87	.19	4	3	.0	0	10.2	-	34	NW	6	13	11	7	5.0	67
York	19	1014.3	1016.4	90	72	80 9	5.0	100	22+	65	30	14	0	66	65	82	3.30	.27	6	4	.0	0	10 5	NE	34	N	6	13	11	7	5.1	--
hester	543	997.3	1016.3	88	63	75 4	4.2	97	4+	49	13	14	0	61	63	.98	2.11	.80	5	5	.0	0	10 5	SSW	30	NW	5	13	15	3	4.0	80
enectady	217	-	- --	89	65	76.9	4.2	97	22	55	13	19	0			1.71	-1.86	.50	10	2	.0	0	-	-	-	--	--	22	9	0	2.5	
acuse	424	995.3	1016.8	88	65	76.7	4.2	96	22	54	13	14	0	62	64	2.85	-.41	2.02	7	4	0	0	8.8	NW	40	NW	15	14	14	3	3 8	79
NORTH CAROLINA																																
eville CO	2203	- -	--	85	65	74.8	1.0	92	28	56	2	5	0		-	3.06	-1.44	.88	16	19	.0	0	5.3	--	26	E	28	3	18	10	6.4	53
rlotte	727	990.2	1017.5	92	70	81.3	2.7	99	4+	62	1	25	0	70	76	4.91	.24	1.69	14	15	.0	0	7.1	SW	34	SW	18	7	14	10	6.0	55
ensboro	891	986.5	1017.9	89	69	79.2	2.0	95	18+	63	1	17	0	69	77	3.03	-1.91	1.05	15	15	.0	0	6.4	SW	31	SSE	20+	8	12	11	6.0	72
teras CO	4	1016.8	1017.5	85	76	80.3	1.8	87	12+	70	19	0	0	74	82	2.24	-4.24	1.24	8	8	.0	0	12.3	SSW	30	NW	19	10	10	11	5.6	--
eigh	433	1001.4	1017.2	90	70	80.2	1.7	98	3	63	1	19	0	70	78	6.38	.93	2.00	15	15	.0	0	7.4	SW	•27	NE	20	9	10	12	5.6	73
mington	30	1016.1	- -	90	72	80.9	.9	96	18	60	1	15	0		--	9.25	1.09	2.81	17	16	0	0	8 6		42	NW	18	6	16	9	5.8	61
ston-Salem	967	983.1	1017.9	89	70	79.6	2.1	97	28	65	1	17	0	69	75	3.30	-1.27	.61	14	14	.0	0	7 6	ENE	•48	SSW	4	10	11	10	5.6	-
NORTH DAKOTA																																
marck	1650	953.3	1012.5	86	61	73.1	1.0	100	21	47	9	10	0	60	68	1.68	-.65	.43	10	12	T	T	11.2	E	59	SW	6	10	14	7	4.9	75
ils Lake CO	1471	961.1	-----	83	60	71.3	2.0	100	21	43	9	8	0	-	--	1.74	-.93	.60	9	9	.0	0	7.7	---	29	S	6	9	13	9	5.5	65
go	895	979 7	1013.6	85	64	74.5	3.2	97	25	52	9	9	0	64	73	6.86	4.55	1.79	15	15	.0	0	13.3	SSE	54	W	8	10	13	8	5.0	71
liston CO	1877	945.8	1012.2	83	60	71.5	.6	101	20	44	9	7	0	56	60	1.42	-.71	.47	11	8	.0	0	7 6	- -	30	NW	6	11	12	8	5.0	69
OHIO																																
on	1210	980.1	1017.8	87	65	76.0	3.6	94	27	56	12	7	0	64	71	2.37	-1.83	1.15	9	12	.0	0	8.3	SW		---	--	11	11	9	5.0	--
cinnati Obs	761	------	------	89	70	79.6	3.0	96	27	63	12	16	0		--	5.74	2.04	1.57	14	16	.0	0	-	---	26	SE	9	--	--	--	- -	70
cinnati	869	985.3	1016.8	89	69	79.2	4.1	96	27	65	10+	17	0	68	75	5.55	1.80	1.93	14	11	.0	0	6.9	SSW	32	SE	9	9	8	14	5.8	-
veland	787	989.6	1016.9	90	68	79.1	5.4	97	27+	59	25	16	0	66	67	2.50	54	1.01	10	8	.0	0	9.0	S	37	NW	27	13	9	9	4.7	77
umbus CO	724	----	-----	89	69	79.1	3.3	97	27	59	11	14	0		-	3.17	-.36	1.02	7	-	.0	0	-	--	-	-	-	--	--	-	---	--
umbus	815	987.5	1017.1	91	67	79.0	4.6	100	27	57	11	22	0	67	71	4.77	.92	2.89	11	10	T	0	5.4	S	34	SW	6	11	9	11	5.6	67
ton	1002	981.1	1016.8	88	69	78.4	3.4	95	27	60	11	11	0	67	73	7.21	3.92	3.29	14	10	.0	0	8.9	SW	45	SE	9	7	12	12	5.9	64
dusky CO	603	994.8	------	87	70	78.8	4.2	98	27	63	13	9	0	-	--	3.92	.47	1.98	9	8	.0	0	6.3	--	22	N	27	16	13	2	3.4	88
edo	676	991.5	1016.5	90	67	78.3	---	99	4	57	12+	18	0	66	72	2.16	-- -	.72	9	13	.0	0	8.2	SW	38	NW	27	12	10	9	4.7	82
ngstown	1178	975.6	1017.6	87	64	75.3	3.0	92	4	52	20	10	0	65	73	3.43	.73	2.70	8	10	.0	0	6.4	SSW	33	W	23	11	13	7	5.0	--
OKLAHOMA																																
ahoma City	1280	971.6	1014.0	94	72	83.1	1.0	99	31	67	16+	29	0	66	60	.36	1.79	.36	1	2	.0	0	11.8	SSE	40	W	24	19	8	4	3.5	--
sa	672	989.8	1013.7	97	75	85.7	3.6	102	30	68	17	30	0	68	58	4.39	1.70	1.80	9	7	.0	0	9.6	S	34	NE	10	16	9	6	4.2	85
OREGON																																
oria	8	1015.9	1016.7	64	52	57.8	-3.0	70	12	42	2	0	0	52	83	3.42	2.35	1.43	16	2	.0	0	6.7	NW	--	- -		2	11	18	7.8	--
ns CO	4140	872.0	1011.9	81	49	65.0	-4.8	96	14	35	1+	9	0	40	45	1.61	1.36	1.20	7	6	.0	0	- --	-	-	---	-	17	7	7	4.0	--
ene	361	1002.7	1016.3	75	49	61.8	-4.8	89	13	39	3	0	0	--	-	.82	.56	.45	7	0	.0	0	7.9	--	-	---	-	11	7	13	5.4	--
cham	4050	--- --	--- --	72	47	59.2	-4.0	89	14+	32	2	0	1	-	--	1.78	1.32	1.12	8	8	.2	T	- -	---	-	---		12	10	9	4.9	--
ford	1312	967.2	1013.6	84	52	67.9	-3.9	99	13+	40	3	11	0	47	50	.01	-.16	.01	1	0	.0	0	6.4	WNW	•20	WNW	15	18	9	4	3.2	-
dleton	1492	959.7	1012.3	83	57	69.7	-4.8	103	13+	42	2	8	0	45	46	.88	.62	.69	6	4	.0	0	10.6	WNW	•40	W	16	17	8	6	4.1	--
tland	21	1010.2	1015.5	72	55	63.5	-3.8	86	13	43	2	0	0	53	72	.89	.47	.38	8	1	.0	0	6 7	NW	23	S	26	6	9	16	6.9	38
eburg	505	997.3	1015.6	78	49	63.5	---	94	13	40	3	3	0	-	-	.15	-.05	.10	4	0	.0	0	5.6	---	18	NW	14	12	10	9	4.9	62
em	195	1008.5	1015.6	75	50	62.6	-5.1	91	13	42	2+	1	0	51	71	.86	.54	.38	6	1	.0	0	7.1	NW	-	- -	--	10	6	15	5.8	--
ton Summit CO	3836	------	------	70	47	58.3	-4.9	87	13+	36	1	0	0	-	--	.22	-.10	.15	4	0	.0	0	-	---	--	---		18	8	5	3.3	--
PENNSYLVANIA																																
entown	376	1003.0	1017.0	91	67	79.0	4.9	100	22	59	13	20	0	64	65	.42	-4.36	.24	4	4	0	0	7.1	WSW	-	--	--	10	12	9	5.2	-
risburg	335	1003.0	1016.5	91	70	80.4	5.0	98	4+	63	20	21	0	64	61	.78	2.86	.43	4	4	0	0	5.7	WSW	20	S	4	13	9	9	5.0	78
ladelphia CO	26	------	--- --	90	74	81.9	4.7	97	3+	66	14	20	0	-	-	1.37	2.84	1.08	2	--	---	--		- -	-	-			-	--	-	
ladelphia	10	1011.9	1016.3	91	72	81.4	5.1	100	22	63	13	20	0	68	69	1.04	-3.16	.92	6	2	.0	0	9.1	SW	27	E	28	8	13	10	5.9	68
tsburgh CO	749	------	------	90	70	79.5	4.1	94	22+	62	13	16	0	--	--	2.23	-1.49	.65	11	--	-	-	-	- -	--	--		-	--	--		72
tsburgh	1151	987.4	1017.7	87	66	76.9	4.6	93	22	59	12	8	0	64	69	3.61	-.30	.81	10	10	0	0	7 9	WSW	•32	NW	18	8	15	8	5.3	60
ding CO	266	1004.2	1015.9	91	72	81.5	5.8	99	22+	61	13	20	0	-		1.51	-2.92	.86	4	2	.0	0	8.0	-	29	E	28	8	14	9	5.7	71
anton	940	983.4	1017.4	90	65	77.4	---	98	22	54	12+	14	0	61	63	1.13		.40	7	6	.0	0	6.5	WSW	31	N	18	13	12	6	4.7	74
ippingport CO	740	--- -	------	88	65	76.4	-	92	22+	57	11+	9	0	-	-	3.72	- -	1.20	9	9	0	0	1.7	-	%30	NNW	3	--	--	-	--	-
lliamsport	527	998.0	--- --	93	65	79.2	5.9	100	5+	55	21	25	0	-	-	.99	-2.72	.63	7	-	.0	0	- -	--		-		10	15	6	4.6	
RHODE ISLAND																																
ck Island	110	1011.6	1015.7	79	65	72.2	3.1	91	22	58	13	1	0	-		1.61	-.94	.92	6	4	0	0	-- -	-	-	-	-	13	10	8	5.0	-
vidence	55	1009.8	1015.8	85	66	75.5	4 5	96	5	54	13	8	0	65	73	3.34	.28	1.74	6	7	T	0	8 7	SW	•25	N	5	10	14	7	5.0	74
SOUTH CAROLINA																																
arleston CO	9	-----	------	88	76	81.9	.4	93	19	70	1	9	0	-		4.10	-3.94	1.14	16	18	.0	0	8 1	--	31	SW	24	4	15	12	6.9	68
arleston	41	1016.1	1018.0	89	71	80.1	.0	93	16+	66	1	14	0	73	84	7 06	.98	1.85	16	17	.0	0	8.8	S		---		4	13	14	6.6	-
lumbia	217	1008.2	1016.5	94	71	82.6	1.2	100	3	58	1	27	0	71	75	2.95	3.61	.76	14	18	.0	0	7.2	SW	•21	SSW	7	7	11	13	6 3	81
orence	146	1011.7	------	92	71	81.7	.8	97	17+	59	1	23	0		-	4.84	1.61	1.16	13	16	.0	0	----	-	-		-	7	12	12	6.1	-
eenville	1018	980.4	1017.1	89	69	79.3	.9	97	3	63	2	15	0	68	74	7.00	2.19	2.91	21	17	.0	0	9.2	WSW	47	E	10	6	10	15	6.5	63
artanburg	801	------	------	89	71	79.7	.8	96	28	62	2	15	0		-	7.05	2.35	2.46	14	14	.0	0	6 6	--	29	W	12		-		-	-
SOUTH DAKOTA																																
ron	1282	965.5	1011.4	93	66	79.6	4.2	105	31	54	9	21	0	64	65	3.08	1.00	1.54	6	9	0	0	11.8	SSE	60	SW	12	16	14	1	3.5	84
pid City	3165	900.1	1011.4	92	62	76 9	4 6	101	6	52	8	21	0	55	51	2.14	.08	1.25	8	11	5	1	9.9	SE	45	N	6+	12	14	5	4.2	74
oux Falls	1420	962.8	1012.9	92	67	79.5	4 7	102	26	55	24	20	0	64	64	3.25	.25	1.51	8	12	T	0	11.7	SSE	•60	W	28	15	14	2	3 7	
TENNESSEE																																
istol	1519	964.5	----	88	68	77.7	2.9	93	22	62	1+	11	0	--	-	5.56	.42	1.17	14	12	.0	0	-	--				5	15	11	6.2	--
attanooga	670	990.1	1017.1	90	70	80.0	1.7	96	3+	60	1	16	0	71	79	5.93	59	1.78	17	15	.0	0	5.0	S	35	NE	28	7	9	15	6.3	66
oxville	949	982.8	1017.7	90	70	79.9	1.5	97	27+	65	1	16	0	69	75	3.97	-.75	1.84	10	9	0	0	6.3	WSW	45	N	28	7	12	12	5.8	63
mphis CO	271	-----	------	90	75	82.3	1.0	94	2+	71	24	20	0	--	-	2.92	.18	1.29	10	-	.0	0		-		--	-		-	-		-
mphis	263	1001.5	1016.0	92	73	82.6	1.4	97	10+	70	1+	23	0	73	78	5.96	2.73	1.73	16	15	.0	0	8.0	S	33	S	6	7	14	10	5.9	69
shville	577	997.1	1016.8	93	72	82.4	2.4	98	27+	63	1	26	0	71	73	1.76	-2.20	.73	7	11	.0	0	4.6	S	23	NE	28	4	21	6	5.8	74
k Ridge CO	905	984.8	------	89	68	78.5	.7	95	27+	60	1	14	0	-		3.53	1.81	1 11	15	14	.0	0	3.7	SW	28	NE	28	8	8	15	6.4	-
TEXAS																																
ilene	1759	953.3	1012.5	94	73	83.8	7	100	13	68	18	26	0	64	56	1.36	.69	.66	4	1	.0	0	11.6	SSE	37	SE	16	12	11	8	4.9	77
arillo	3590	889.6	1012.1	89	66	77.4	-.4	98	1	60	17	18	0	58	58	3.35	.99	1.44	11	8	T	T	13.0	S	43	NE	22	12	12	7	5.3	77
stin	615	992.9	1014.1	96	74	84 9	.8	102	31	70	21	31	0	70	66	2.02	-.16	1.04	8	5	.0	0	9.1	SSE	42	N	13	1	23	7	5.9	68

See footnotes at end of table.

CLIMATOLOGICAL DATA

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths
	Ft.	Mb.	Mb.	°F.	°F	°F.	°F.	°F.		°F.		#		°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–
TEXAS (Cont'd.)																															
Brownsville	16	1011.5	1013.9	91	76	83.3	-0.5	94	21	73	9+	25	0	74	77	3.61	1.61	2.47	7	2	0.0	0	11.3	SE	27	S	9	7	17	7	5.
Corpus Christi	40	1013.2	1014.2	94	76	85.0	2.3	97	12	72	9+	29	0	74	77	.95	-1.31	.54	8	5	.0	0	11.3	ESE	35	S	9	3	20	8	5.
Dallas	487	996.6	1014.9	96	76	85.9	.4	104	14	71	16+	29	0	71	62	.73	-1.24	.41	5	2	.0	0	11.8	SSE	35	S	14	18	7	6	3.
Del Rio	1091	979.0	1012.5	96	74	84.6	-.1	101	13+	68	1+	30	0	67	60	1.27	-.31	.58	9	4	T	T	11.8	---	49	S	1	9	13	9	5.
El Paso	3920	885.2	1010.3	91	69	79.7	-1.6	101	6	64	12+	18	0	57	52	3.70	2.38	1.76	12	10	.0	0	11.5	N	45	N	4	9	10	12	5.
Fort Worth	544	994.2	1014.7	96	75	85.4	.3	102	14	71	17+	29	0	68	59	.64	-1.25	.30	5	4	.0	0	10.3	S	*24	SE	16	18	9	4	3.
Galveston CO	7	------	------	88	79	83.4	.4	94	12	70	19	4	0	--	--	3.36	-1.44	.89	11	--	.0	0	11.0	---	32	NE	12	--	--	--	-
Galveston	5	1013.5	1015.8	89	79	83.8	.5	93	12	73	12+	7	0	75	77	2.62	-2.09	1.39	8	9	.0	0	11.2	S	--	---	--	0	19	12	7.
Houston CO	41	1010.2	------	91	76	83.4	-.4	98	11	68	11	22	0	--	--	10.04	5.59	2.95	15	20	T	0	8.0	---	56	NE	11	0	19	12	7.
Houston	50	1012.5	1015.0	92	74	83.1	.5	98	12	72	20	25	0	72	74	2.01	-2.78	.76	12	16	.0	0	10.6	S	--	---	--	0	16	15	7.
Laredo	500	997.3	1012.2	99	77	87.8	.1	101	1	74	10	31	0	68	59	.43	-.97	.37	3	1	.0	0	14.8	SSE	*35	ESE	20	9	14	8	5.
Lubbock	3243	903.5	1012.0	90	68	78.9	-.4	100	1	64	17	20	0	62	60	3.03	1.14	1.16	9	5	T	T	13.0	S	*37	ENE	16	10	14	7	5.
Midland	2854	915.3	1012.2	92	69	80.7	-1.3	98	1	62	18	25	0	62	58	2.95	1.14	1.10	11	9	.0	0	9.7	SE	*29	N	27	7	14	10	5.
Port Arthur	16	1014.6	1015.9	90	74	81.8	.1	97	11	70	12	15	0	75	82	4.66	-2.14	1.07	17	18	.0	0	7.3	S	31	NE	11+	3	15	13	6.
San Angelo	1903	947.5	1013.0	92	71	81.7	-1.0	100	12+	65	16	25	0	64	58	2.37	.80	1.42	5	5	.0	0	9.4	S	*32	N	14	13	13	5	4.
San Antonio	792	989.5	1014.0	95	74	84.5	.3	100	31	70	21	29	0	67	62	1.32	-.59	.83	5	8	.0	0	9.3	SSE	35	NE	12	5	16	10	6.
Victoria	110	1009.8	1014.3	94	75	84.7	-.1	98	12+	71	28	29	0	71	67	2.71	-1.42	1.25	12	10	.0	0	9.4	---	%42	NE	31	0	19	12	7.
Waco	500	995.9	1014.1	96	74	84.9	-.1	99	12	71	20	31	0	70	66	.39	-1.55	.20	5	5	.0	0	10.0	S	--	---	--	8	18	5	5.
Wichita Falls	1027	977.0	1012.8	97	74	85.6	1.8	102	15	67	1+	29	0	65	53	1.75	-.44	1.21	4	6	.0	0	10.8	SE	*25	E	16+	20	8	3	3.
UTAH																															
Milford	5028	843.2	1010.3	91	56	73.4	-.6	102	14	43	8	20	0	--	--	1.01	.24	.62	6	13	.0	0	----	---	--	---	—	16	10	5	3.
Salt Lake City	4220	865.2	1008.7	91	60	75.5	-1.1	102	15	45	8	20	0	46	39	.80	.19	.76	2	5	.0	0	9.8	SSE	35	S	9	24	3	4	2.
VERMONT																															
Burlington	331	1000.7	1015.3	86	62	73.8	3.4	97	22	51	12+	9	0	60	65	3.10	-.65	1.11	9	6	.0	0	9.6	S	28	NW	23	10	14	7	4.
VIRGINIA																															
Lynchburg	947	984.3	------	88	69	78.5	2.5	94	3	63	14	16	0	--	--	3.68	-.47	1.41	10	11	T	0	6.3	---	31	N	23	8	11	12	5.
Norfolk	26	1015.8	1017.0	90	73	81.4	3.9	97	28	61	14	17	0	71	75	2.34	-3.71	.70	11	11	.0	0	7.1	SW	26	NW	6	11	12	8	4.
Richmond	162	1011.1	1017.1	91	71	81.3	3.8	97	5+	60	14	21	0	71	77	7.93	2.29	3.55	11	11	.0	0	6.7	S	56	NW	23	11	12	8	5.
Roanoke	1174	977.1	1017.8	91	69	79.8	3.9	98	4+	66	5+	21	0	68	74	2.73	-2.18	1.04	15	13	.0	0	4.4	NE	--	---	--	7	12	12	5.
WASHINGTON																															
Olympia	190	1008.5	1015.6	71	49	59.9	-2.9	85	13+	37	2	0	0	50	74	2.68	1.96	.96	14	3	T	T	5.9	SSW	*21	S	26	6	6	19	7.
Seattle CO	14	------	-- ---	70	54	62.0	-3.6	82	13	48	1	0	0	--	--	1.41	.89	.69	13	2	.0	0	8.2	---	30	S	29	8	5	18	6.
Seattle	14	1015.0	1015.6	--	--	----	---	--	--	--	--	--	--	51	72	----	- --	----	--	--	---	--	7.3	SSW	--	---	--	--	--	--	--
Seattle-Tacoma	379	1002.4	1016.2	69	52	60.1	-3.8	82	14	45	2	0	0	51	78	2.10	1.52	.72	13	2	.0	0	10.6	SW	*31	SW	29	7	4	20	7.
Spokane	2357	944.5	1012.5	79	53	66.4	-3.2	98	14	40	1+	7	0	47	54	1.28	.92	.79	8	4	T	0	7.5	SSW	28	SW	15	12	9	10	5.
Stampede Pass CO	3958	879.1	1016.7	59	44	51.1	-5.8	82	13	30	1	0	1	--	--	4.04	2.75	.73	18	6	2.0	6	----	---	--	---	--	8	4	19	7.
Tatoosh CO	101	1013.2	1016.1	58	50	54.2	-1.3	64	8	48	5	0	0	52	92	6.05	4.06	1.46	12	1	.0	0	9.5	W	32	S	28	1	6	24	8.
Walla Walla CO	949	976.6	1011.9	83	60	71.7	-4.5	104	13+	47	2	9	0	—	--	.97	.69	.56	10	4	T	T	5.8	---	24	S	22	14	13	4	4.
Yakima	1061	973.9	1011.9	84	51	67.4	-4.0	103	14	37	1+	9	0	47	51	.43	.25	.21	4	4	.0	0	6.5	NW	--	---	--	12	11	8	4.
WEST VIRGINIA																															
Charleston	950	982.6	1017.4	88	68	78.1	2.7	94	3	64	1+	11	0	68	78	5.90	.45	2.49	13	12	.0	0	5.6	S	*30	WSW	16	4	17	10	6.
Elkins	1970	------	---	86	62	74.0	4.0	90	22	54	2	1	0	65	--	2.36	-2.78	1.04	7	12	.0	0	4.4	NW	19	ENE	9	3	17	11	6.
Huntington CO	565	------	------	90	70	79.8	2.9	95	3+	65	1+	19	0	--	--	5.29	.47	1.62	8	--	.0	0	----	---	--	---	--	--	--	--	--
Parkersburg CO	615	------	- ---	89	69	78.9	3.2	95	3	64	22	16	0	--	-	3.06	-1.10	1.10	12	11	.0	0	4.3	---	26	N	3	11	3	17	5.
WISCONSIN																															
Green Bay	689	993.2	1015.9	85	63	74.1	4.2	98	26	49	25	7	0	65	75	4.78	2.19	1.34	11	13	.0	0	7.3	SW	34	W	2	12	9	10	5.0
La Crosse	652	990.5	1014.7	89	69	78.5	4.5	101	26	59	25	14	0	67	68	4.63	1.42	2.45	12	12	.0	0	7.1	S	*32	N	8+	9	14	8	5.6
Madison	857	981.4	1015.7	91	65	78.1	5.1	100	22+	52	25	19	0	66	69	3.93	.63	1.78	12	10	.0	0	8.1	S	47	W	30	10	13	8	5.3
Milwaukee	675	991.5	1016.2	86	67	76.7	5.4	101	26	57	25	12	0	66	74	2.10	-.33	.69	11	8	.0	0	10.8	NNE	35	W	22	12	12	7	4.5
WYOMING																															
Casper	5322	836.8	1008.5	90	57	73.2	2.1	96	10	43	8	17	0	37	35	.27	-.90	.20	2	2	.0	0	12.0	E	*40	SSE	10	24	3	4	2.4
Cheyenne	6131	813.4	1011.2	86	56	70.6	2.5	95	10	48	17	5	0	45	45	.93	-1.03	.40	6	13	.6	1	9.8	SE	52	E	5	17	11	3	3.6
Lander	5563	835.4	1010.7	88	57	72.2	1.8	95	16+	45	2	16	0	41	38	1.09	.21	.51	6	6	.0	0	8.0	---	54	SW	2	22	4	5	2.8
Sheridan	3942	882.5	1011.0	88	56	71.8	1.2	99	16	41	2	14	0	50	52	1.42	.04	.68	7	8	T	T	8.1	WNW	60	NW	6	21	6	4	2.9
PACIFIC AREA																															
Canton Island	9	1010.8	1011.1	87	78	82.5	-1.7	89	10	73	10	0	0	73	76	2.63	.30	1.75	7	0	.0	0	----	---	--	---	--	17	7	7	4.3
Hilo	31	1015.9	1017.5	80	65	72.5	-2.3	84	23	63	6+	0	0	65	80	11.13	1.24	1.88	25	0	.0	0	7.0	WSW	*20	ESE	23+	2	13	16	7.4
Honolulu	7	1016.9	1017.2	83	71	76.9	-1.9	85	7	66	23	0	0	64	65	.23	-.11	.15	6	0	.0	0	15.9	ENE	33	NE	11	11	15	5	5.2
Koror CO	94	1006.1	1009.9	88	74	80.9	.4	90	15	70	29	1	0	75	86	8.68	-10.13	1.85	24	2	.0	0	----	---	--	---	--	0	8	23	8.2
Lihue	115	1012.9	1018.0	82	70	75.8	-1.6	83	11+	65	23	0	0	67	73	1.68	-.19	.27	20	0	.0	0	14.3	NE	30	E	12	4	19	8	6.1
Majuro	10	1009.5	1009.8	85	75	80.0	---	88	14+	72	1	0	0	75	83	11.88	----	2.39	29	1	.0	0	----	---	--	---	--	1	5	25	8.7
Ponape CO	112	1005.4	1010.8	87	72	79.5	-.9	90	2+	70	19+	5	0	75	87	12.44	-4.62	1.76	29	6	.0	0	----	---	--	---	—	0	12	19	8.2
Truk (Moen Island)	8	1009.8	1010.4	86	75	80.6	.3	88	6+	72	11+	0	0	76	85	14.30	.84	2.72	28	3	.0	0	----	---	--	---	--	0	5	26	8.9
Wake Island	11	1014.2	1013.3	87	78	82.2	.2	89	28	73	8	0	0	73	73	.80	-4.62	.24	12	0	.0	0	14.7	E	--	---	--	5	14	12	6.5
Yap CO	53	1008.1	1009.9	88	75	81.6	-.1	92	10	73	13	13	0	76	85	12.99	-3.61	2.23	28	2	.0	0	----	---	--	---	—	0	1	30	9.4
WEST INDIES																															
San Juan CO	47	------	------	84	76	80.2	.2	87	31	74	19	0	0	--	--	4.35	-1.67	1.32	16	3	.0	0	----	---	--	---	--	--	--	--	---
San Juan, P.R.	9	1013.8	1015.9	87	74	80.3	---	88	7+	71	29+	0	0	73	79	3.93	----	1.10	18	5	.0	0	9.3	ENE	25	E	21	5	21	5	5.3
ALASKA																															
Anchorage	92	1009.1	1014.3	66	49	57.5	.2	81	21	41	17	8	0	46	64	1.72	.17	.64	8	0	.0	0	8.5	WNW	*28	S	10	10	7	14	5.9
Annette	110	1011.9	1015.8	62	50	56.0	-.8	75	16	45	13	2	0	51	86	2.56	-3.03	.86	12	0	.0	0	9.1	SSE	*24	SE	5	4	3	24	7.9
Barrow	22	1013.5	1014.3	44	33	38.4	-1.3	60	23	29	1+	0	19	37	95	.31	-.52	.08	8	1	.3	T	10.9	ENE	31	NE	3	0	10	21	8.1
Bethel	10	1009.8	1011.2	61	47	53.8	-.7	76	21	40	4	5	0	49	86	3.95	1.66	1.92	19	0	.0	0	9.0	SSW	*27	SSE	13	2	2	27	8.9
Cold Bay	103	1008.8	1012.8	55	45	49.5	---	70	21	40	1	1	0	47	93	2.93	----	1.20	16	0	.0	0	13.5	SSE	*52	SSE	1	2	3	26	9.0
Cordova	40	------	- ----	61	47	53.5	.2	79	22	37	17	3	0	--	--	5.93	-.51	2.08	14	0	.0	0	----	---	--	---	--	2	8	21	8.4
Fairbanks	436	994.9	1012.0	73	49	61.3	.4	93	25	44	5+	17	0	50	68	2.51	.59	1.48	9	2	.0	0	5.0	SW	*18	SE	10	9	10	12	6.0
Juneau	15	1013.5	1014.5	66	47	56.8	2.1	82	21	43	4+	10	0	48	74	2.37	-2.28	.73	15	0	.0	0	7.0	N	17	SE	2+	2	6	23	8.2
Kotzebue	10	1010.8	1011.5	61	47	53.8	1.2	79	25	37	12	5	0	48	81	.83	-.70	.42	11	0	.0	0	12.6	WSW	*32	W	27	3	5	23	8.1
McGrath	334	999.7	1012.3	68	47	57.6	-1.1	86	22	34	1	13	0	48	72	3.53	1.21	1.24	15	0	.0	0	4.9	S	*21	S	14	6	4	21	7.7
Nome	13	1009.8	1010.7	56	46	50.7	1.1	67	10	40	1	0	0	47	85	3.71	1.25	1.18	18	0	.0	0	10.2	SSE	36	SE	13	3	4	24	8.3
Northway	1713	- ----	--	72	47	59.4	.2	88	26	40	19	17	0	--	--	1.59	-1.30	.45	15	4	.0	0	----	---	--	---	--	5	9	17	7.0
St. Paul Island	22	1009.5	1010.4	48	41	44.6	-1.3	56	31	38	29	0	0	43	97	1.87	-.56	.89	15	0	.0	0	----	---	--	---	--	0	1	30	9.7
Yakutat	28	1014.6	1015.6	61	48	54.3	1.6	84	21	40	1	3	0	50	87	2.36	-6.27	.78	18	0	.0	0	6.2	WSW	*17	WSW	2+	0	7	24	8.7

Data from airport unless otherwise specified. CO indicates data from city office.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.

+ And also on a later date or dates.

% Peak gust.

a Maximum hourly average

# Number of days maximum 70° or above for Alaskan stations.

HEATING DEGREE DAYS

(Base 65 F.)

ble 3

JULY 1955

State and station	Current season		Normals July through this month
	This month	Period July through this month	
ALABAMA			
rmingham	0	0	0
bile	0	0	0
ntgomery	0	0	0
ARIZONA			
agstaff	105	105	49
oenix (CO)	0	0	0
oenix	0	0	0
escott	0	0	0
cson	0	0	0
nslow	0	0	0
ma	0	0	0
ARKANSAS			
. Smith	0	0	0
ttle Rock	0	0	0
xarkana	0	0	0
CALIFORNIA			
kersfield	0	0	0
shop	0	0	0
ue Canyon	110	110	36
rbank	0	0	0
reka (CO)	291	291	267
esno	0	0	0
s Angeles (CO)	0	0	0
s Angeles	3	3	31
. Shasta (CO)	108	108	37
kland	139	139	84
d Bluff	0	0	0
cramento (CO)	2	2	0
cramento	1	1	0
ndberg (CO)	26	26	0
n Diego	0	0	11
n Francisco (CO)	246	246	189
n Francisco	170	170	144
n Jose	32	32	7
nta Maria	196	196	98
COLORADO			
lamosa	41	41	64
lorado Springs	0	0	8
nver	0	0	5
rand Junction	0	0	0
eblo	0	0	0
CONNECTICUT			
ridgeport	0	0	0
artford	0	0	0
ew Haven	0	0	0
DELAWARE			
ilmington	0	0	0
DIST. OF COLUMBIA			
ashington (CO)	0	0	0
ashington	0	0	0
FLORIDA			
palachicola (CO)	0	0	0
aytona Beach	0	0	0
ort Myers	0	0	0
acksonville (CO)	0	0	0
acksonville	0	0	0
ey West (CO)	0	0	0
iami (CO)	0	0	0
iami	0	0	0
iami Beach	0	0	0
rlando	0	0	0
ensacola (CO)	0	0	0
allahassee	0	0	0
ampa	0	0	0
est Palm Beach	0	0	0
GEORGIA			
thens	0	0	0
tlanta	0	0	0
ugusta	0	0	0
olumbus	0	0	0
acon	0	0	0
ome	0	0	0
avannah	0	0	0
IDAHO			
oise	44	44	0
ewiston	41	41	0
ocatello	40	40	0
ILLINOIS			
airo (CO)	0	0	0
hicago (CO)	0	0	
hicago	0	0	0
hicago University	0	0	
oline	0	0	0
eoria	0	0	0
pringfield	0	0	0
INDIANA			
vansville	0	0	0
t. Wayne	0	0	0
ndianapolis	0	0	0
outh Bend	0	0	0
IOWA			
urlington	0	0	0
es Moines	0	0	5
ubuque	0	0	8
eokuk (CO)	0	0	
IOWA (Cont'd.)			
Sioux City	0	0	8
KANSAS			
Concordia (CO)	0	0	0
Dodge City	0	0	0
Goodland	0	0	0
Topeka (CO)	0	0	0
Topeka	0	0	0
Wichita	0	0	0
KENTUCKY			
Lexington	0	0	0
Louisville	0	0	0
Pikeville (CO)	0	0	
LOUISIANA			
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans (CO)	0	0	0
New Orleans	0	0	0
Shreveport	0	0	0
MAINE			
Caribou	50	50	85
Greenville (CO)	29	29	
Portland	5	5	15
MARYLAND			
Baltimore (CO)	0	0	0
Baltimore	0	0	0
Frederick	0	0	0
MASSACHUSETTS			
Blue Hill Obs.	2	2	
Boston	0	0	0
Nantucket	7	7	22
Pittsfield	1	1	25
MICHIGAN			
Alpena (CO)	5	5	50
Detroit	0	0	0
Detroit (Willow Run)	0	0	0
East Lansing (CO)	0	0	
Escanaba (CO)	7	7	62
Grand Rapids (CO)	0	0	0
Grand Rapids	0	0	14
Marquette (CO)	22	22	69
Muskegon	0	0	26
S. Ste. Marie	12	12	109
MINNESOTA			
Duluth (CO)	22	22	66
Duluth	24	24	56
Internat. Falls	24	24	70
Minneapolis	0	0	8
Rochester	0	0	24
St. Cloud	0	0	32
MISSISSIPPI			
Jackson	0	0	0
Meridian	0	0	0
Vicksburg (CO)	0	0	0
MISSOURI			
Columbia	0	0	0
Kansas City	0	0	0
St. Joseph	0	0	0
St. Louis (CO)	0	0	0
St. Louis	0	0	0
Springfield	0	0	0
MONTANA			
Billings	22	22	8
Glasgow (CO)	20	20	14
Great Falls	88	88	24
Havre (CO)	56	56	20
Helena	93	93	36
Kalispell	130	130	47
Miles City	2	2	6
Missoula	117	117	22
NEBRASKA			
Grand Island	0	0	0
Lincoln (CO)	0	0	0
Norfolk	0	0	0
North Platte	0	0	7
Omaha	0	0	0
Scottsbluff	0	0	0
Valentine (CO)	0	0	11
NEVADA			
Elko	47	47	6
Ely	66	66	22
Las Vegas	0	0	0
Reno	50	50	27
Tonopah	1	1	0
Winnemucca	49	49	0
NEW HAMPSHIRE			
Concord	0	0	11
Mt. Washington Obs.	351	351	
NEW JERSEY			
Atlantic City (CO)	0	0	0
Newark	0	0	0
Trenton (CO)	0	0	0
NEW MEXICO			
Albuquerque	0	0	0
Clayton	0	0	0
Roswell	0	0	0
NEW YORK			
Albany	0	0	0
Binghamton	0	0	16
Buffalo	0	0	16
New York (CO)	0	0	0
New York	0	0	0
Rochester	0	0	9
Schenectady	0	0	
Syracuse	0	0	0
NORTH CAROLINA			
Asheville (CO)	0	0	0
Asheville	0	0	
Charlotte	0	0	0
Greensboro	0	0	0
Hatteras (CO)	0	0	0
Raleigh	0	0	0
Wilmington	0	0	0
Winston-Salem	0	0	0
NORTH DAKOTA			
Bismarck	9	9	29
Devils Lake (CO)	14	14	47
Fargo	3	3	25
Grand Forks	7	7	
Pembina	3	3	
Williston (CO)	26	26	29
OHIO			
Akron	0	0	0
Cincinnati (CO)	0	0	0
Cincinnati	0	0	0
Cleveland	0	0	0
Columbus	0	0	0
Dayton	0	0	0
Sandusky (CO)	0	0	0
Toledo	0	0	0
Youngstown	0	0	0
OKLAHOMA			
Oklahoma City	0	0	0
Tulsa	0	0	0
OREGON			
Astoria	215	215	138
Burns (CO)	105	105	10
Eugene	115	115	33
Meacham	230	230	88
Medford	51	51	0
Pendleton	41	41	0
Portland (CO)	69	69	13
Portland	80	80	25
Roseburg	94	94	
Salem	96	96	21
Sexton Summit (CO)	236	236	88
PENNSYLVANIA			
Allentown	0	0	0
Harrisburg	0	0	0
Philadelphia (CO)	0	0	0
Philadelphia	0	0	0
Pittsburgh (CO)	0	0	0
Pittsburgh	0	0	0
Reading (CO)	0	0	0
Scranton (CO)	0	0	0
Williamsport	0	0	0
RHODE ISLAND			
Block Island	0	0	6
Providence	0	0	0
SOUTH CAROLINA			
Charleston (CO)	0	0	0
Charleston	0	0	0
Columbia	0	0	0
Florence	0	0	0
Greenville	0	0	0
Spartanburg	0	0	0
SOUTH DAKOTA			
Huron	0	0	10
Pierre	0	0	
Rapid City	0	0	32
Sioux Falls	0	0	16
TENNESSEE			
Bristol	0	0	0
Chattanooga	0	0	0
Knoxville	0	0	0
Memphis	0	0	0
Nashville	0	0	0
TEXAS			
Abilene	0	0	0
Amarillo	0	0	0
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	0	0	0
Del Rio	0	0	0
El Paso	0	0	0
Ft. Worth	0	0	0
Galveston (CO)	0	0	0
Galveston	0	0	0
TEXAS (Cont'd.)			
Houston (CO)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	0	0	0
Midland	0	0	
Port Arthur	0	0	0
San Angelo	0	0	0
San Antonio	0	0	0
Victoria	0	0	0
Waco	0	0	0
Wichita Falls	0	0	0
UTAH			
Milford	0	0	0
Salt Lake City	2	2	0
VERMONT			
Burlington	3	3	19
VIRGINIA			
Lynchburg	0	0	0
Norfolk	0	0	0
Richmond	0	0	0
Roanoke	0	0	0
WASHINGTON			
Olympia	160	160	91
Seattle (CO)	97	97	49
Seattle-Tacoma	152	152	75
Spokane	92	92	17
Stampede Pass (CO)	430	430	251
Tatoosh Island (CO)	327	327	295
Walla Walla (CO)	25	25	0
Yakima	61	61	0
WEST VIRGINIA			
Charleston	0	0	0
Elkins	0	0	0
Huntington (CO)	0	0	0
Parkersburg (CO)	0	0	0
WISCONSIN			
Green Bay	4	4	32
La Crosse	0	0	11
Madison (CO)	0	0	10
Madison	0	0	13
Milwaukee	0	0	20
WYOMING			
Casper	1	1	13
Cheyenne	1	1	33
Lander	6	6	7
Sheridan	21	21	27
ALASKA			
Anchorage	226	226	239
Annette	273	273	262
Barrow	816	816	784
Bethel	345	345	326
Cold Bay	474	474	
Cordova	350	350	363
Fairbanks	144	144	149
Juneau	247	247	319
Kotzebue	346	346	384
McGrath	234	234	206
Nome	436	436	477
Northway	178	178	186
St. Paul	623	623	592
Yakutat	327	327	381

Data from airport unless otherwise specified.
CO indicates data from city office.

Table 4

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Galveston (near), Galveston County, Tex.	1	9:40 a.m.			0	0	$ 0	$ 0	Waterspout and rain	Waterspout moved northwestward 6 miles east-northeas of Galveston.
Illinois, central portion	1	Afternoon					30,000	75,000	Rain and wind	Thunderstorm rains resulted in considerable local flooding in Montgomery, Fayette, Shelby, and Moultr Counties. Some minor wind damage in Moultrie Count and local flash flood caused derailment of freight train near Coffeen. Storm moved northeastward.
Bowdle, Edmunds County, S. Dak.	1	3:15 p.m.			0	0			Tornado, wind, rain, and hail	Small girl and pony lifted, carried 1/4 mile without injury. Small buildings wrecked or moved on foundations. Storm moved northeastward.
Conneautville (2 miles south of), Crawford County, Pa.	1	5 p.m.	3		0	0			Tornado	Small tornado moving eastward demolished 2 barns, unroofed 2 others, and caused some damage to 2 residences.
Temvik (northwest of), Emmons County, N. Dak.	1	5:10 p.m.		40	0	0	10,000	0	Tornado and hail	8 buildings demolished on farm, but house spared, although badly damaged. About 100 chickens killed. Hail covered strip from 2 to 4 miles wide short distance north of tornado area. Storm moved northeastward.
Gannville, Buffalo County, S. Dak.	1	7 p.m.	3/4	220	0	0			Tornado, wind, rain, and hail	Tornado moving northeastward touched ground once, bu not at building locations.
Kandiyohi and Swift Counties, Minn.	1	7:30 p.m.	100	*35			10,000	Light	Electrical, wind, hail, and rain	Barn demolished near Lake Lillian; several other bui ings also damaged. 2 barns near Willmar destroyed fire started by lightning. Some crops throughout both counties damaged by hail. Utility services di rupted. Storm moved southeastward.
South Dakota, northeastern quarter	1	Evening					10,000		Hail, wind and rain	25-county area reported 874 hail-damage claims. Win caused $8,000 damage to open-air theater screen and adjacent buildings.
	1									Minor storms also reported in Brown County, Kans.; and at Malden and Medford, Mass.
Lower Michigan	1-2	Afternoon-evening				1	100,000	10,000	Wind, electrical, and rain	Thunderstorms, frequently accompanied by high winds, struck many localities in Lower Peninsula. Wind caused most of damage, but lightning set some fires injuring 1 person, and killing 15 sheep.
Surry County, N.C.	2	4 p.m.						19,000	Hail	Tobacco damaged over about 5 square miles.
Walcott (southwest of), Richland County, N. Dak.	2	6 p.m.	12	150	2	19	150,000	30,000	Tornadoes, rain, hail, and electrical	Storm zigzagged west to east; loss to buildings, cro animals, and farm machinery about 40 percent. Destruction uneven, but many houses and barns destroy Trees broken; bark stripped. Buildings blown many miles from foundations, heavy machinery moved, farm animals carried away. 1 man drawn through window o his home as tornado destroyed building, killing his elderly father. Area declared official disaster area by Red Cross. More than 100 volunteers worked with National Guardsmen. 3 other funnel clouds observed in area, but none of them touched ground.
North-central Boyd County, Nebr.	2	6:30-7:30 p.m.	10	*1/2-3			Light	10,000	Hail	Stones up to 1 inch diameter.
Wolverton and Breckenridge vicinities, Wilkin County, Minn.	2	6:30-7:30 p.m.	20	440	0	2	107,500		Tornadoes, wind, rain, and electrical	About 6:30 p.m., tornado struck 3 1/2 miles southeas of Wolverton, causing property damage estimated at $2,500. Another tornado struck about 7:30 p.m., 2 miles east of Breckenridge, causing estimated property damage of $105,000 and 2 personal injuries. 2 other funnel-shaped clouds observed, but did not descent to earth. Path of storm not continuous; moved northeastward.
Brighton (15 miles east of), Adams County, Colo.	2	Evening			0	0	Moderate	0	Tornado	Storm passed through farmlands, causing damages over small area to farm buildings and equipment.
Massachusetts, central and eastern portions	2	Evening				3	5,000		Electrical, wind, rain, and hail	Most of damage caused by lightning strikes.
	2									Minor storms also reported at Duluth, Minn.; in Ohio and at Green Bay, Wis.
Detroit Lakes and vicinity, Becker County, Minn.	2-3		20	*5		1	50,000	75,000	Hail, wind, rain, and electrical	Hail as large as tennis balls damaged growing crops and property, and caused 1 injury. Wind demolished several barns, cottages, and other buildings, and uprooted trees. Excessive rains did considerable additional damage. Loss from wind estimated at $40,000, hail $85,000. Storm moved northeastward.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

able 4—Continued

July 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
alworth County, Wis.	3	5:30 a.m.	15	*15			$120,000		Wind and rain	Sheds, barns, miscellaneous small buildings, and trees blown over. Signs and windows damaged. Storm moved eastward.
orsyth, Surry, Lee, and Wake Counties, N.C.	3	1-8 p.m.					90,000	$120,000	Wind, hail, and rain	Thunderstorms with hail affected Lee County near Sanford, and northern and southern portions of Wake County. Crops and roofs damaged.
linton (3 miles northwest of), Van Buren County, Ark.	3	1:30 p.m.				2			Electrical	2 women washing dishes, injured seriously when lightning struck house. No damage to house.
ibaux (18 miles south of), Wibaux County, Mont.	3	1:30 p.m.	5	*1			500	20,000	Hail, rain, and electrical	Crop damage estimated from percent of damage and area covered.
orthington and Columbus, Ohio	3	2-2:30 p.m.		*4	4	1	5,000	1,000	Electrical, hail, wind, and rain	Heavy thunderstorm moved southeastward north of Worthington, and across eastern Columbus, accompanied by heavy lightning, brief heavy rain, and strong winds. Damage mainly to trees, signs, a few roofs, etc. One family sought shelter under tree when it was struck by lightning, killing 4 and injuring 1.
rowers and Kiowa Counties, Colo.	3	2-3:30 p.m.	25	290			2,000	50,000	Wind, rain, hail, and electrical	Much wheat shattered. Storm moved north-northeastward.
nion (near), W. Va.	3	3 p.m.							Electrical and rain	Residence struck by lightning and considerable damage done by fire to upstairs furnishings.
herman County (central portion), Kans.	3	3:30-4:30 p.m.							Hail and rain	Hailstones up to 1-1/2 inches fell over 36-square mile area, damaging considerable wheat and second cutting of alfalfa. Rainfall estimated at 3 to 4 inches in 1-1/2 hours. Storm moved northwestward, then eastward.
ille Lacs area, Aitkin County, Minn.	3	5 p.m.			0	0	Light	0	Tornado (suspected), waterspouts, wind, and rain	Some property damage, many trees uprooted, and highway traffic blocked. Waterspouts observed from north shore of Mille Lacs. Unusual darkness prevailed.
ost Land Lake, Sawyer County, Wis.	3	5 p.m.			2				Wind and rain	Sudden thunderstorm overturned boat; 2 men drowned.
piceland (3 miles east of), Henry County, Ind.	3	Night (p.m.)					18,000		Electrical	Lightning destroyed barn and contents, including machinery, 3,000 bales of hay, and 500 bales of straw.
alton (3-1/2 miles south of), Boone County, Ky.	3	Night (p.m.)					20,000		Electrical and wind	Lightning set fire to cattle barn, destroying a number of cattle as well as barn.
ordon (near), Nebr.	3	Night (p.m.)	7	*1			Light	15,000	Hail	
innesota, central portion	3						40,000	50,000	Wind, electrical, hail, and rain	Wind damage minor in St. Cloud-Twin Cities area. Near Fergus Falls considerable damage to 3 farmsteads; trees uprooted. Loss from wind estimated at $33,500. Incessant lightning; many buildings struck. Loss from lightning $1,500. Heavy hail in Alexandria-New London area; some hailstones larger than golf balls. Some acreage a total loss. Damage from hail to property estimated at $5,000, growing crops $50,000. Storm moved eastward.
	3									Minor storms also reported at Belle Mina, Ala.; in Point View community, Ark.; at Columbus, Ga.; in Madison County, Ky.; at Oakland, Md.; at Boston and Waltham, Mass.; in Ohio; and at Conroe, Tex.
tter Tail and Jackson Counties, Minn.	4	A.m.-p.m.					Moderate	Moderate	Electrical, hail, and rain	Barn and contents near Foxhome destroyed by fire set by lightning. Hail damaged crop in 2-1/2-mile area near Lakefield. Hailstones 1/4 to 3/4 inch in diameter.
ntake-Bloomfield-Lindsay areas, Dawson County, Mont.	4	8:30 a.m.	10	*3			5,000	25,000	Hail, rain, and electrical	Storm moved northeastward.
Savage (near), Richland County, Mont.	4	11:30 a.m.	40	*2				30,000	Hail, rain, and electrical	Storm moved northeastward.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Marion and Franklin Counties, Tenn.	4	1:15 p.m.					$40,000	$ Slight	Wind	Severe thunderstorm. Roofs of about 18 houses blown off. Severe damage done to Marion Lumber Company and United States Stove Company, both of South Pittsburg.
Vici (near), Dewey County, Okla.	4	Afternoon			0	0	500	Minor	Tornado, wind, and rain	Tornado moving northeastward damaged a few outbuildings in small area about 20 miles southwest of Vici.
Montvale (near) Bedford County, Va.	4	3 p.m.							Hail, wind, and rain	Crops damaged and some small buildings buffeted. Hail shredded a corn field, and high winds upset wheat shocks, knocked farm building off its foundation, and blew over poultry cover.
Buncombe, Davie, Forsyth, Madison, Rockingham, Swain, and Surry Counties, N. C.	4	3-4 p.m.					3,000	77,500	Hail	
Steele, Pemiscot County, Mo.	4	3:30-4:30 p.m.					10,000		Electrical	3 houses struck, losses 85 to 100 percent.
Cabarrus, Caldwell, Catawba, and Forsyth Counties, N.C.	4	4-9 p.m.				2	15,000	1,000	Electrical and wind	Widespread lightning damage to power and communication lines; 1 barn burned; 1 home moved on foundation by wind, 2 persons inside injured.
Atwood area, Rawlins County, Kans.	4	5-5:45 p.m.	14	*2-4			2,000	120,000	Rain and hail	Property damage largely from excessive rainfall, unofficial reports indicate 6 inches in 45 minutes. Hail damage intermittent over 30-square mile area. Stones occasionally as large as 1 inch in diameter. Storm moved northward.
Boone County (southwestern portion), Nebr.	4	5-7:30 p.m.					Light	Heavy	Hail	Stones up to 1-1/2 inches in diameter.
Illinois, central two-thirds	4	Afternoon and evening			1		200,000	100,000	Rain, electrical, wind, and hail	Severe local thunderstorms with hail, wind, and heav rains occurred over wide area bounded by Jackson County on south, De Kalb County on north, Pike and Henry Counties on west, and Champaign and Cook Counties on east. 1 fatality from lightning at Murphysboro in Jackson County. Hail damage to crops spotty but at large number of points.
San Angelo, Tom Green County, Tex.	4	7:40 p.m.			0	0	0	0	Dust devil	Dust devil moved northward. Funnel reported not touching ground south of Goodfellow Field.
Edison (4-1/2 miles northeast of), Furnas County, Nebr.	4	9 p.m.	Short	Narrow	0	0	1,000	0	Tornado	1 x 8-inch boards driven into ground. Tornado moved northeastward.
Bellevue, Brown County, Wis.	4	11:40 p.m.					25,000		Electrical	Fire started by lightning destroyed grain elevator, including 3,000 bushels of grain.
Higginsville (6-1/2 miles southwest of), Lafayette County, Mo.	4	Evening			1				Electrical and rain	Farmer struck by lightning and killed while plowing.
South Dakota, southeastern portion	4	Evening							Hail, wind, and rain	3-county area in southeast reported 260 hail-damage claims.
Chester, Liberty County, Mont.	4							50,000	Hail, rain, and electrical	
	4									Minor storms also reported at Sparta, Ga.; at Crothersville, Goshen, and in Topeka area, Ind.; in Des Moines vicinity, Iowa; at Madawaska, Maine; at Stratton, Nebr.; in Ohio; and in northern Vermont
Lower Michigan, southern and eastern portions	4-5	Afternoons					40,000	5,000	Wind, electrical, and rain	Thunderstorms accompanied by damaging winds in number of southern and eastern localities of Lower Michigan 25 head of cattle reported killed by lightning.
	4-5									Minor storm also reported in Johnson County, Ark.

See footnotes at end of table

ble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Orleans, a.	5	11:45 a.m.					$10,000		Electrical and rain	Lightning struck transformer at pumping station, set equipment afire; fire chief estimated damage to equipment at $10,000.
mingham, efferson ounty, Ala.	5	Afternoon			1				Electrical and rain	Boy killed by lightning as he sought shelter under tree from storm. Electric power interruptions and other minor damage over City.
inesville, zark County, Mo.	5	Afternoon		Narrow	0	0	Light	$0	Tornado	Ice-house roof picked up, deposited across road.
ville (8 iles west f), Pittsylania County, Va.	5	Afternoon							Wind, rain, and electrical	Some garages and chicken houses torn up, a number of trees uprooted, and some damage to tobacco and other crops.
rpenter, aramie ounty, Wyo.	5	3-3:30 p.m.	7	*3/4				20,000	Hail and electrical	Storm moved eastward.
na Maria sland (3 iles east f), Fla.	5	4:06 p.m.			0	0	0	0	Waterspout	
npa (northorthwest of irport), Fla.	5	4:30 p.m.			0	0	0	0	Tornado	Funnel cloud observed and reported by Weather Bureau at Tampa.
ntrail County (northestern portion), N.Dak.	5	5:15 p.m.	25	100	0	0	20,000	1,000	Tornado, wind, rain, and hail	Tornado moving northeastward picked up light pickup truck, turned it around, and set it down upright in ditch without injuring passengers. Farmstead 5 miles northeast of Lostwood razed by storm. It leveled house, garage, and barn, killing some hogs and poultry. On July 2, 1935, a tornado demolished buildings on same site. Although reports of 3 different twisters in Powers Lake-Lostwood area, considered possible that same funnel cloud lifted and dipped down several times.
erling, olo.	5	Evening						Moderate	Wind, rain, hail, and electrical	About 1,100 acres of sugar beets damaged to various degrees; corn and grains also suffered to some extent.
ssachusetts, ew Hampshire, onnecticut, nd Rhode sland	5	Evening			0	10	70,000	Severe	Tornado (suspected), hail, wind, rain, and electrical	Hail size of golf balls caused severe damage to apple orchards in Wilton, Milford, Hollis, and Lyndeboro, N.H. Suspected tornado occurred in Sunderland, Mass., accompanied by hail size of moth balls. This storm tipped shed partially over and smaller barn beside house moved a few feet on its foundation. Large barn completely demolished. Path of "twister" took it from north to south across barns, then it veered east, and left trail of twisted saplings in wooded area, according to eyewitness account. No mention made of funnel cloud.
gin and icinity, ane County, ll.	5						50,000	10,000	Rain	Severe local thunderstorm with heavy rain resulted in damaging local flooding in city of Elgin and surrounding area.
rion, Grant ounty, Ind.	5				1				Electrical	Lightning struck and killed construction worker working atop unfinished house.
	5									Minor storms also reported at La Fayette, Ala.; near Berger and in Randolph County, Mo.; near Diller and Odell, Nebr.; in Ohio; in northwestern South Carolina; and in Albany area, Wis.
nnsylvania	5-6	P.m.			1	2			Hail, electrical, rain, and wind	Numerous thunderstorms throughout State on 5th. Crops damaged by hail in Altoona-Johnstown area, also dwelling destroyed by fire caused by lightning. In lower Somerset County, farmer killed, and his 2 sons injured by lightning when they took shelter under tree. In Luzerne County, hail caused extensive damage to crops and fruit trees, and heavy rains washed some fields. Large dwelling received extensive damage from lightning bolt in Allentown-Bethlehem area. On 6th, 2 barns destroyed by fire caused by lightning in Bethlehem Township, Northampton County. Damage estimated at $50,000. Lightning caused interruptions in utility services in many areas.
nsas, northastern porion	6	1-5 a.m.							Rain, hail, wind, and electrical	Damage resulted from heavy rain, hail, wind, and lightning. Locally heavy rains estimated from 6 to 13 inches delayed harvest, lodged grain, washed out railroad tracks and bridges, and halted traffic; small areas of corn stripped by hail and occasional damage by lightning.

ee footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Webster City, Iowa	6	All day					$15,000		Rain	Flooded lower part of City, damaging buildings an roads.
Columbus area, Ohio	6	12:30-1:10 p.m.	10	*3			50,000		Rain	Brief thunderstorm rain of cloudburst proportions visited eastern part of Columbus and adjacent are dropping nearly 3 inches of rain. Basements floode over wide section. Storm moved eastward.
Fort Benton (east of), Choteau County, Mont.	6	1 p.m.	30	*7			Considerable	$750,000	Hail, wind, rain, and electrical	Apparently a series of storms. Crop damage estima on basis of similar damage in adjacent Hill Coun Storm moved eastward.
Chester, Liberty County, Mont.	6	1 p.m.	20-30	*2·1/2				250,000	Hail, wind, rain, and electrical	Storm moved northeastward.
Rudyard to Havre, Hill County, Mont.	6	2 p.m.	70	*7			Considerable	1,000,000	Hail, rain, and electrical	Buildings damaged. Windows broken in about 25 bui- ings. Hail damaged some crops 100 percent. Stor moved northeastward.
Billings, Yellowstone County, Mont.	6	2:11 p.m.	75	*5-15		15-25	5,000,000	500,000	Hail, wind, rain, and electrical	Roofs, windows, and automobiles suffered most of c- age, but about 100 planes at airport badly damage Hailstones up to 3 inches in diameter. Utility services disrupted. Flower beds, gardens, and cr beaten into ground. Storm moved east-northeastwa .
Prince William County, Va.	6	2:20 p.m.			1	3	5,000		Electrical	1 man killed and 3 injured in Manassas Park sectio farm building burned halfway to ground at Prince William County District Home.
Huntley (south of), Yellowstone County, Mont.	6	2:30 p.m.	2	50	0	0	5,000	0	Tornado, rain, hail, and electrical	Tornado moving north-northeastward struck Pryor Cr k area. Barn lifted from foundation.
Joliet (north of), Carbon County, Mont.	6	3 p.m.	6	*3				82,700	Hail, wind, rain, and electrical	Storm moved eastward.
Bedford (west of), Trimble County, Ky.	6	Afternoon						10,000	Wind, hail, and rain	Hail and wind damage widespread. Greatest damage wind.
Shenandoah County, Va.	6	Afternoon							Wind and electrical	Storm ripped off barn roof, lifted chimney off hou , and uprooted several old trees in Harrisville are 10 fine Hereford cattle killed by lightning in Powell's Fort Valley.
Turner (7-12 miles north of), Blaine County, Mont.	6	4 p.m.	10	*4			500	100,000	Hail, rain and electrical	$800 worth of livestock destroyed by lightning. Storm moved eastward.
Ryegate (8-12 miles south of), Golden Valley County, Mont.	6	4 p.m.	6	*4				50,000	Hail, wind, rain, and electrical	Storm moved northward and eastward.
Eastern Massachusetts, Rhode Island, southern New Hampshire, and eastern Connecticut	6	4 p.m.-midnight			1	5	15,000	Slight	Electrical, wind, and rain	Property damage due to lightning fires and heavy r .
Brusett and Jordan, Garfield County, Mont.	6	4:15 p.m.	25	*10-12				70,000	Hail	Crop damage estimate based on percent of loss and ea covered by storm. Storm moved northeastward.
Southeastern Garfield and northwestern Custer Counties, Mont.	6	4:30 p.m.	30	*2				80,000	Hail, rain, and electrical	Storm moved northeastward.
Myers (near), Yellowstone County, Mont.	6	4:30 p.m.	2	75	0	0	10,000	0	Tornado, rain, hail, and electrical	Tornado moving north-northeastward picked up grana and scattered the building. 800-gallon tank disappeared. Farmhouse roof removed and garage move 30 feet.
Warrenton (near), Fauquier County, Va.	6	5 p.m.							Electrical	22 head of Black Angus cattle killed by lightning Rappahannock farm west of Warrenton.
Roundup (5-8 miles north of), Musselshell County, Mont.	6	5:15 p.m.	12-16	*3·1/2	0	0	12,400	50,000	Tornado (suspected), hail, wind, rain, and electrical	Observer reported funnel cloud just prior to thunde- storm. Hailstones as large as hens' eggs piled u to 6 inches in depth. Windows, windshields, and head broken. Roofs and sidings of buildings damaged. aged wheat. Storm moved northeastward.

See footnotes at end of table.

ble 4--Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
ttineau ounty, N. Dak.	6	5:30 p.m.	60	*2			$ Slight	$600,000	Hail	Some farmhouse windows broken, cars damaged. Crop damage ranged from 25 to 100 percent. Storm moved eastward.
tkins (north f), McCone ounty, Mont.	6	7 p.m.	15	*1-1/4			300	50,000	Hail, wind, rain, and electrical	$300 damage to livestock by lightning. Storm moved northeastward.
dson, Morton ounty, N.Dak.	6	8 p.m.	7	15	0	0	2,000	0	Tornado (suspected)	Storm lifted walls and roof of cow barn and milking shed over haystack as high as building. About 50 chickens in barn killed. No damage to house located about 300 feet away, nor to crops. Cow barn 80 by 18 feet was in center of row of buildings flanked on one side by granary and on other by pig barn, no damage to buildings, nor hog barn east of granary.
rry area, rairie County, Mont.	6	8:15 p.m.		1,000	0	0	12,000		Tornado, hail, wind, electrical, and rain	Apparently tornado occurred in this area during storm. No precise time given for tornado occurrence. Tornado damaged a house 18 miles west of Glendive. Storm moved southeastward.
rsyth (8 iles east f), Rosebud ounty, Mont.	6	9 p.m.	30	*1-2				100,000	Hail, rain, and electrical	Storm moved northwestward, then northward.
valier and embina Counies, N. Dak.	6	11 p.m.					Moderate	Considerable	Wind, hail, and rain	Grain flattened, corn stocks shredded, fields flooded by rains with amounts up to 5 inches. Storm moved southeastward.
edericksburg, a.	6	Evening				1	Slight		Electrical	Severe lightning damaged house and injured 1 tenant.
well County eastern ortion), Ky.	6	P.m.						40,000	Rain and electrical	Flash flood that followed heavy rains caused damage to several hundred acres of corn and tobacco.
rtsmouth nd adjacent orfolk County, Va.	6	Night				1			Electrical	Lightning hit 3 homes and 1 utility pole and lights knocked out in Jolliffs section of County and in Alexander Park section of City.
linois, orthern ortion	6						225,000	200,000	Hail and rain	Thunderstorms, accompanied by hail and some locally heavy rains, occurred in comparatively narrow belt extending from Whiteside County across LaSalle and Grundy Counties to northern Kankakee County. Hail damage to crops heaviest in Kankakee County and local city flooding very damaging at Morris, Sterling, and Ottawa.
chmond, ayne County, Ind.	6				1				Electrical and rain	Golf player killed when struck by lightning.
	6									Minor storms also reported at Gainesville, Ark.; at Laurel, Lewistown, and Big Horn County, Mont.; in Ohio; at Amherst, Lynchburg, Pulaski, and Warsaw, Va.; and at Keyser, W. Va.
ower Michigan, western portion	7	Afternoon				2	50,000	25,000	Wind, hail, electrical, and rain	Thunderstorms scattered in western portion of Lower Michigan. High winds caused damage in several localities. Lightning also caused some damage, injured 1 person, and killed 7 head of cattle. Hail ruined truck crops and damaged fruit in area near Coloma, Berrien County.
angor, Maine	7	3 p.m.		8	0	0	0	0	Dust devil and wind	Phenomenon formed in large parking lot in front of 9 witnesses, described as follows: "A cone about 25 feet across formed and dust and debris whirled skyward to base of thundercloud; as it passed over small trees it pulled leaves and limbs upward." It moved out of sight in 5 or 6 minutes. 1 observer reported wind light, but that definite twist was clearly visible. This observer started for phenomenon to get inside and look up, but as he approached it picked up speed and moved off.
incoln and Lyon Counties, Minn.	7	3-4:30 p.m.	20	*3	1	13	1,000,000	500,000	Tornadoes, hail, rain, and wind	2 separate tornadoes. First tornado struck a mile south of Arco, second tornado a mile south of Hendricks. Path of tornadoes not continuous. Last great destruction 11 miles west of Marshall at 4:30 p.m.; nearly all buildings on 4 farms destroyed; 2-year old boy killed and 13 other persons injured. Heavy rain and heavy hail accompanied storm. Adjacent counties received some wind and hail damage also. Storm moved northeastward.
outh Bend, St. Joseph County, Ind.	7	3:10 p.m.					2,700		Rain and electrical	2.69 inches of rain fell in downtown South Bend within an estimated 1/2 hour causing overflow of sewers and flash flooding of some basements, etc. $200 lightning damage, $2,500 flash flood damage. Storm moved northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Forsyth County, N. C.	7	3:30 p.m.					$400	$32,700	Hail	3 square miles damaged, mostly tobacco in fields.
Cumberland and Rowan Counties, N. C.	7	4-10 p.m.							Electrical and wind	Heavy local thunderstorms caused lightning fires and wind damage to business and residence buildings in Fayetteville; lightning damage to homes and communication lines in Salisbury.
Ellsworth, Pierce County, Wis.	7	8 p.m.					Moderate	Considerable	Rain, wind, and electrical	Small grains and corn suffered considerable damage from heavy rain and wind. Unofficial 4-1/2 inches of rain fell at Ellsworth in 9-hour period. 1 bridg washed out and section of preliminary grading of new roadbed washed out. Storm moved northeastward.
	7									Minor storms also reported at Fort Lupton, Colo.; in Fayette County, Ky.; near Hershey, Nebr.; at Anderson and near Chesterfield, S. C.
South Dakota, northern and northeastern portions	7-8	Night							Hail, wind, and rain	Numerous hail claims reported in 19-county area. Wind caused considerable damage to old buildings.
Hennepin, Ramsey, and Dakota Counties, Minn.	7-8	P.m.-a.m.				1	300,000	Light	Wind, electrical, and rain	Building damaged, trees uprooted, and utility services interrupted. At Lake Minnetonka small boat capsized and cottages damaged. Barns wrecked in rural Hennepin County. Lightning did $28,000 damage. At Crystal Airport, Minneapolis, 2 hangars demolished, 20 parked airplanes wrecked and 25 others damaged. Excessive rains flooded basements, streets, and highways and lodged grains. Washout near Mendota derailed a freight train. Damage from wind estimated $280,000. Storm moved eastward.
Scribner to State line, Nebr.	8	Early a.m.	30	*2-1/2			Light	100,000	Hail	Storm moved east-northeastward.
Southeastern Custer County to Nance County, Nebr.	8	1-3 a.m.	35		1	13	80,000	250,000	Tornado and hail	Path of hail up to 8 miles wide. Buildings burst outward; trees uprooted. Most property damage around Loup City. Storm moved eastward.
Near Oconto to near Comstock, Nebr.	8	1:30-2:30 a.m.	20-25	*2-3			Light	Considerable	Hail and wind	Stones up to 1 inch in diameter.
Frederick County, Md.	8	2-6 p.m.					25,000		Wind, rain, and electrical	
Warrenton (near), Fauquier County, Va.	8	Afternoon							Electrical	3 Black Angus cows and calf killed by lightning on farm 4 miles from Warrenton.
Bowerstown (east of), Huntington County, Ind.	8	4 p.m.		15-20	0	0	3,000	0	Tornado (suspected)	Moving southeastward storm twisted down line of trees in orchard and uprooted trees between 2 homes which were only 50 feet apart.
Valier (northeast of), Pondera County, Mont.	8	4 p.m.	9	*1/2				80,000	Hail, rain, and electrical	Storm moved eastward.
Centerville (near), St. Joseph County, Mich.	8	4:30 p.m.	Short	25	0	0	2,200	0	Tornado (suspected)	Storm smashed chicken house, killing 300 chickens, but did no damage to nearby residence. Whirling cloud of dust, moving from south reported by farm owner.
Gresham area, Marion County, S. C.	8	5 p.m.			1				Electrical	Lightning struck large tree beside home and killed child playing on floor in home.
Dutton (near), Teton County, Mont.	8	7:30 p.m.	20	*1/2				50,000	Hail, rain, and electrical	Storm moved southeastward.
Cut Bank, Glacier County, Mont.	8						Considerable		Rain and hail	Runoff of heavy rain caused flooding of streets.
	8									Minor storms also reported at Columbus, Ga.; at Scipio, Ind.; in southern Iowa; at Kimball, Nebr.; in Warwick County, Va.; and at Wheeling, W. Va.
Lower Michigan, western portion	8-9	Afternoon 8th-afternoon 9th			1	1	300,000	50,000	Wind, rain, hail, and electrical	Thunderstorms with high winds and heavy rain hit several localities. Heaviest damage near St. Joseph, where winds estimated at 75 m.p.h. Man killed near St. Joseph when tree fell on his car.

See footnotes at end of table.

le 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
orado, ex- eme north- stern por- on	8-9		100	*40	0	0	$7,000	$90,000	Tornado, wind, hail, rain, and electrical	Over area of approximately 4,000 square miles extending from central Weld County through Morgan, Washington, and Yuma Counties high winds, rain, hail, and heavy runoff, also scattered tornadoes or twisters caused damage to crops and property. Storm moved eastward.
tucky, rthern and ntral por- ons	8-9				2	1	500,000	750,000	Rain, electrical, wind, and hail	Flash floods, as result of heavy rains, caused considerable damage. Bridges damaged, soils eroded, crops washed away, and many homes and business establishments flooded. Lightning, wind, and hail contributed to excessive damage. Garrard County was hardest hit. 1 fatality was result of being struck by lightning. Other fatality and injury result of skidding off rain-covered highway.
inois, rthern por- on	9	Morning					100,000	10,000	Rain and wind	Wind and rain accompanying local thunderstorms occurred in narrow belt extending from Stephenson and Carroll Counties southeastward to Cook County. Most of damage due to urban flooding.
ain, Elyria, d Welling- n, Ohio	9	5:30-7 a.m.					14,000		Wind, electrical, and rain	Lightning and strong winds knocked out utility lines over wide area, including Elyria, Lorain, and Wellington. Much damage to lines and poles. Storm moved eastward.
cinnati, io	9	Afternoon			4	Few	150,000		Rain and electrical	Flash flood brought on by heavy, local rain inundated River Downs Race Track during race, flooding large number of cars on low parking lot and doing damage to track buildings, etc. Casualties by lightning strikes and drowning. Storm moved eastward.
hmond area, yne Coun- , Ind.	9	3 p.m.					10,000		Wind and rain	Numerous trees blown over on automobiles. Light plane at airport flipped over with $500 damage.
der and rry Coun- es, N. C.	9	3-5 p.m.						22,000	Hail	4 square miles damaged, mostly tobacco in fields.
ilton Coun- (south- stern por- on), Nebr.	9	4:30-5 p.m.	10				Light	Considerable	Hail	Corn stripped.
land, rrett Coun- , Md.	9	5-7 p.m.					50,000		Rain	Flash-flood damage.
ton County orthern rtion), br.	9	6-7 p.m.	12	*2			3,000	20,000	Hail	Stones up to 1-1/2 inchs in diameter.
elton and cinity, br.	9	6:15-6:30 p.m.	10	*6			Several thousand	Heavy	Hail and wind	
llings, ellowstone ounty, Mont.	9	8:10 p.m.	35	*3-4			100,000	900,000	Hail, wind, rain, and electrical	Large greenhouse containing orchids destroyed. Storm moved northeastward.
lk (south- est of), olk County, br.	9	10:07 p.m.	1-1/2	300	0	0	20,000	0	Tornado	Boards and limbs driven into ground. Barn demolished, combine and crib nearby undamaged.
ningford 11 miles ast-north- ast of), ox Butte ounty, Nebr.	9	10:30 p.m.	Short	Narrow	0	0	2,000	0	Tornado	House undamaged, but nearby farm buildings destroyed or badly damaged.
merset Coun- y, Pa.	9	P.m.					21,500		Electrical and rain	Severe thunderstorm with excessive lightning resulted in fires which destroyed barn and sawmill. Damage estimated $21,500. Heavy rains caused rapid runoff which flooded some highways.
linois, ex- reme south- astern por- ion	9	Evening				1	10,000	10,000	Hail, wind, and rain	Severe, local thunderstorms with hail, wind, and locally heavy rain inflicted damage in Union, Wayne, and Edwards Counties. 1 person injuried at Cobden by lightning.
innell (1-1/2 iles west of), ove County, ans.	9	Evening							Rain, hail, and wind	Locally heavy rain of 5 to 7 inches reported from unofficial gages; considerable washing of fields; flooding of highway delayed traffic. Hail destroyed many acres of crops. Farm buildings and stacked feed damaged by wind at 1 farm.
iro (5 miles outheast of), all County, ebr.	9	Night	5	Narrow	0	0	1,500	0	Tornado	Funnel cloud observed, moving eastward.

ee footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
	9									Minor storms also reported at Columbia, Ala.; at Madison, Ind.; in McLean County, Ky.; at Grantsville, Md.; near Corvallis, Mont.; near Aurora, Kearney, Newcastle, and Wood River, and in Dakota County, Nebr.; in Person County, N.C.; in Ohio; at Orangeburg, Rowesville, Kingstree, York, and Oakridge, S.C.; in Portsmouth area, Va.; and at Keyser, W. Va.
South Dakota, eastern portion	9-10	Night					$30,000	$100,000	Hail, wind, and rain	Some 650 hail claims reported in 24-county area.
Iowa, western and northern portions	9-10	Late p.m.-early a.m.					9,000	850,000	Wind, rain, and electrical	Heavy rain, wind, and lightning damaged buildings and crops.
	9 or 10									Minor storm reported at Roanoke, Va.
Rolla, Phelps County, Mo.	10	Afternoon					Slight		Wind and rain	Gusts to 65 m.p.h., uprooted trees, damaged roofs, and blew roof off granary.
Connecticut, Massachusetts, and Rhode Island	10	3-10 p.m.				20	50,000	Slight	Wind, rain, and electrical	While all of southern New England felt effects of storm, eastern Massachusetts hardest hit. 2.10 inches of rain fell at Logan Airport, eastern Boston, in 1 hour.
Alamosa, Alamosa County, Colo.	10	4 p.m.			0	0	1,000	0	Tornado	A drive-in theatre, several farm buildings, and trees damaged. Storm moved southeastward.
Lenoir, Caldwell County, N. C.	10	5 p.m.			1				Electrical	Woman killed by lightning in home.
Wheeling and vicinity, W. Va.	10	6-7 p.m.				1			Electrical and wind	Feeder line struck by lightning halted power service; sheet-metal roof of small shed ripped off by wind; young man knocked unconscious by bolt of lightning.
Ault-Plattsville-Eaton areas, Weld County, Colo.	10	8:20 p.m.	5 1/2		0	0	5,000	Light	Tornadoes	Several twisters or small tornadoes damaged trees, transmission lines, antennas, and small buildings. Storm moved northward.
New Jersey, northeastern portion	10								Electrical	Dozen or more houses struck by lightning, some in Bergen, Union, and Middlesex Counties. Damage appeared to have been light or moderate and none of houses completely destroyed.
	10									Minor storms also reported near Tuckerman, Ark.; at Hagerstown, Md.; at Glendive, Mont.; in Keota area, Okla.; in Portsmouth area and in Frederick and Shenandoah Counties, Va.; and in Fairmount and vicinity, W. Va.
Hancock and Benson areas, Stevens and Swift Counties, Minn.	11	A.m.-p.m.	30	*4			20,000	120,000	Hail, wind, and rain	Hail 1 inch in diameter damaged crops and property. Also some wind damage. Loss from hail $110,000; wind damage estimated at $30,000. Storm moved south-southeastward.
Idaho, eastern portion	11	1:15-3 p.m.	100					100,000	Hail	Damage mostly in Bannock and Bonneville Counties with wheat hardest hit. Damage scattered along path.
Melrose, Nacogdoches County, Tex.	11	3:30 p.m.			1				Electrical and rain	Man killed by lightning while cutting hay.
Central City, Colo.	11	Afternoon					Moderate		Rain and hail	Storm flooded streets, buildings, and basements.
La Grange, Troup County, Ga.	11	Afternoon					Considerable		Rain and electrical	Excessively heavy rains associated with a thunderstorm flooded streets of La Grange, causing considerable damage. Choked sewers were inadequate, and water in some streets 3 feet or more deep. Water rushed into basements and lower places and badly washed a number of roads and new development lots. Several roofs caved in from accumulated water. Lightning struck several places, causing minor damage.
Houston, Harris County, Tex.	11	5:45 p.m.	15	*3			10,000		Wind, electrical, rain, and hail	Plate-glass windows broken. Lightning struck manufacturing firm with damage of $3,000. Storm moved southeastward.
Sheffield, Mass.	11	6 p.m.			0	0		0	Tornado (suspected) and wind	Garage attached to barn completely demolished, barn unroofed, and roof of nearby tool shed deposited in treetop. Other buildings 100 feet away suffered no damage and no damage reported in other sections of Sheffield.
	11									Minor storms also reported at Lakeland, Fla.; at Egypt Mills to Oriole, Mo.; at Great Falls, Mont.; at Emory, Tex.; in Richmond, Petersburg, and Swords Creek areas, Va.

ble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
yville, wson Coun- , Nebr.	12	12:20 a.m.	**100	Narrow	0	0	$4,000	$0	Tornado	3 buildings badly damaged. 2 x 6-foot board driven 4 feet into ground. Storm moved north-northeastward.
sworth (4· 2 miles uth of), own Coun- , Nebr.	12	1-1:15 p.m.	1	Narrow	0	0	500	0	Tornado	Funnel cloud observed. Heavy grader blade lifted and driven through garage. Storm moved northeastward.
Antonio, xar Coun- , Tex.	12	2:50 p.m.				1			Electrical and rain	Lineman hit by lightning, knocked off of 25-foot pole.
anon (south), Smith unty, Kans.	12	Afternoon							Electrical	Barn struck by lightning and completely burned with a calf, chickens, feed, and harness.
eill, Nebr.	12	3:10-3:45 p.m.	3	*1			5,000	Consider-able	Wind and hail	Tree damage over entire town; too widespread for tornado.
Norte, lo.	12	3:25-3:45 p.m.	2	*1			500	3,000	Hail	Hailstones ranged in size from marbles to golf balls; damage mostly to crops, but neon lights, signs, roofs, and windows suffered to some extent. Storm moved southwestward.
le to allala, br.	12	4 p.m.	15	*4			Slight	200,000	Hail and wind	Heavy crop of wheat destroyed.
lus (2·1/2 les north- st of), ward Coun- , Nebr.	12	5 p.m.			0	0	1,000	0	Tornado	Funnel observed, reached ground at one point. Large, tile hoghouse demolished, barn few feet away not touched.
ean Coun- , N. Dak.	12	6 p.m.	25	*5			20,000	40,000	Wind, rain, and hail	Trees, television antennas, and high-line poles destroyed and crops heavily damaged by hail and wind. Storm moved eastward.
ns (7 miles rtheast of), ce County, ns.	12	6-7:30 p.m.							Wind, hail, and rain	In small area wind damaged farm buildings and TV antennas; wind from east, estimated at 80 to 90 m.p.h. Milo damaged by hail, but not beyond recovery. Heavy rain caused local creeks to run bankfull.
rney (5·1/2 les east), Buffalo unty, Nebr.	12	6:15-6:30 p.m.	5-6	Narrow	0	0	2,500	Consider-able	Hail and tornado	Hail path 1/2 mile wide. Some buildings burst outward. Storm moved northeastward.
tia (near), eeley Coun- , Nebr.	12	8 p.m.			0	0	0	0	Tornado	Funnel did not reach ground.
rytown, ottsbluff unty, Nebr.	12	8 p.m.	Short	Narrow	0	0	Several hundred	0	Tornado	Funnel cloud, observed by several hundred people, mostly aloft. Damage mostly to roofs and treetops.
	12									Minor storms also reported Fall River Mills-Dana-Glenburn-McArthur areas, Calif.; near Ravenna, Scotia, and Chapman, Nebr.; and in Jackson County, Wis.
th Dakota, stern por- on	12-13	Night							Hail, wind, and rain	600 hail-damage reports from 22-county area.
sas, west- n and ntral por- ns	13	Afternoon				1	4,000		Wind, hail, rain, electrical, and dust	Numerous thunderstorms locally severe with damage in following areas: (1) Atwood (8 miles southeast of), Rawlins County, at 12:45 to 1:45 p.m., area 4 to 5 miles long and 2·1/2 to 3 miles wide; wind, heavy hail, and rain damaged buildings, windmills, and growing crops; damages from wind $8,000 to property, from hail $30,000 to crops, $100 to livestock, $2,000 to property; hail 1/2 to 1 inch in diameter; rainfall estimated at 5 to 7 inches; hail drifts 3 to 5 feet deep 24 hours later. (2) Oberlin, Decatur County, at 1:30 p.m.; high gust of wind unroofed and damaged walls of partially completed storage building, 1 man injured. (3) Western Smith County, high wind damaged powerlines, blew tops off hay stacks, and downed a windmill; hail stripped corn and beat feed into ground. (4) Northeast of Hays, Ellis County, during afternoon, wind and hail; barn blown down, slight hail damage. (5) Barton and Lyon Counties, 5 to 8 p.m.; numerous small damages from lightning and strong gusty winds. (6) Finney, Gray, Ford, Kiowa Counties, at 6 to 8 p.m.; thunderstorms; small damages from high, gusty wind, occasional hail, and lightning in various localities; gusts up to 62 m.p.h., recorded at Dodge City; hailstones measuring 3/4 inch in diameter fell and dust reduced visibility there to 1/4 mile at times.

ee footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Stanton County, Nebr.	13	4:50-6 p.m.					$25,000	$40,000	Hail and wind	2 barns blown over. Stones up to 1 inch diameter. Property damage by wind, crop by hail.
Cimarron (near), Gray County, Kans.	13	6:30 p.m.	1/4	Narrow	0	0	4,000		Tornado, rain, and dust	Tornado first observed 1 mile north of Cimarron in dust cloud; roar heard and funnel cloud seen. Damage to roof and porch of residence. Storm broke up about 12 miles south of Cimarron. Storm moved southwestward.
Fort White, Fla.	13				1				Electrical	Boy killed by lightning while working in field.
	13									Minor storms also reported at Chatham, La.; at Cabool Mo.; and near Lexington and Madison, Nebr.
Kampsville and vicinity, Ill.	14	9:45-11 a.m.					25,000	5,000	Rain	Heavy rains caused damage in area around Kampsville. Highway bridges and small farm buildings damaged.
Iroquois and Ford Counties, Ill.	14	Morning				2	10,000	5,000	Electrical and rain	Heavy rains and intense lightning damaged small buildings and standing crops; 2 boys injured by lightning
West Palm Beach, Fla.	14	12:05 p.m.			0	0	0	0	Waterspout	Observed by tower and aircraft personnel from West Pal Beach Airport.
Rush (5 miles south of), Colo.	14	3-4 p.m.	7	*3				20,000	Hail and rain	Hailstones ranged to size of golf balls. Storm moved eastward.
Ault-Eaton areas, Weld County, Colo.	14	4:30-5:15 p.m.	9	1,900			3,000	30,000	Hail, wind, rain, and electrical	Storm moved southeastward.
North Fort Hood, Bell and Coryell Counties, Tex.	14					4			Electrical and wind	28 mess tents blown over; 2 soldiers stunned by lightning, 2 others injured.
Kilgore, Gregg County, Tex.	14								Electrical and rain	Lightning set 10 oil tanks afire; 30,000 barrels of oil lost.
	14									Minor storms also reported at Rolla, Mo.; near Oxford and in Scottsbluff County, Nebr.; near Colbert, Okla and at Waco, Tex.
Drayton Plains (near), Oakland County, Mich.	15	9 a.m.	Short	Narrow	0	0	1,000	0	Tornado and rain	Tornado funnel observed. Storm hit wooded area, tearing down many large trees, but did not damage 2 home less than 100 feet from its path.
Sulphur, Murray County, Okla.	15	2:20-3:30 p.m.	1-1/2	300	1	2	15,000	Minor	Tornado (suspected), wind, rain, and hail	Tornado moved westward or south-southwestward. Drive in theatre screen blown onto automobile injuring 3 women, one of which later died from injuries receive
Pauls Valley, Garvin County, Okla.	15	3-4 p.m.	10	*2			15,000	Minor	Wind, rain, and hail	Winds blew in windows on east sides of some buildings and portion of south wall of another building blown out. Public utility services out of use for varying lengths of time. Storm moved westward, then eastward
Lake Butler, Fla.	15	5:30 p.m.				1			Electrical and rain	Injury due to lightning.
Sarasota, Fla.	15	Afternoon				1	Minor		Electrical	Injury and property damage due to lightning.
Tulsa, Tulsa County, Okla.	15	Afternoon	3	*1/2		3	50,000		Wind, rain, and hail	Wholesale grocery warehouse and drive-in theatre severely damaged. Storm moved southwestward.
Kansas, central and southern portions	15	Afternoon-evening							Electrical, hail, and wind	Occasional lightning strikes caused damage to homes and several churches. Some hail damage to crops. Wind broke trees and damaged transmission lines.
Fort Worth, Tarrant County, Tex.	15	9:58 p.m.					10,000		Wind, hail, and rain	Damaged grocery store, warehouse, plate-glass windows and roofs mostly in Morningside, Seminary Hill, and Polytechnic areas of Fort Worth. Storm moved southward.
Mountain View, Kiowa County, Okla.	15	Evening					25,000	Minor	Electrical and rain	$25,000 grain-elevator fire caused by lightning. Fire at grain elevator was only damage reported. Storm moved southeastward.
Oregon, northwestern portion	15	Evening	40-50	*15-20			800	700	Wind, hail, and electrical	Thunderstorm with local, strong winds and small areas of hail. Storm covered most of Columbia Valley, in Counties of Clatsop, Columbia, Washington, and Multnomah. Extremely violent thunderstorm for this area but damage largely confined to brief power outages. Hail of any consequence fell over only very small area, but stones as much as an inch across found. These caused small amount of damage to cars and glas mostly to neon signs. At one rather large church, camp tents blown off their supporting framework, but damage not extensive. Storm moved eastward.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

able 4—Continued

July 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
ilgore (7 iles south-vest of), ush County, ex.	15						$12,500		Electrical	Lightning struck 4 oil tanks.
	15									Minor storms also reported near Bentonville, Ark.; at Colorado Springs, Colo.; at Bradenton and Zephyrhills, Fla.; in Ohio; at Centrahoma and Tupelo, Okla.; and at Hico and near Valley Mills, Tex.
ashington, western division	15-16	7 p.m.-a.m.					10,000		Electrical	Unusual amount of lightning for western Washington. Lightning caused large number of power outages in all areas and damaged residence in Tacoma and television antennas in several localities.
uggins, Texas ounty, Mo.	16	2 p.m.			1	1			Electrical	Farmer killed while shocking oats. His brother several feet away knocked unconscious.
onnecticut, central and eastern portions	16	Late afternoon				6	1,000		Electrical and rain	
daho, eastern portion	16	3-6:30 p.m.	100					$150,000	Hail and rain	Crop damage due mostly to hail in vicinity of Tetonia, where estimated 2 inches of precipitation fell. Heavy rain in city of Pocatello caused some flooding of streets and covered some streets and lawns with debris. Actual property damage slight. Scattered damage along entire path.
ashington, eastern division	16	5 p.m.-midnight					500,000	1,000,000	Wind, rain, hail, and electrical	Several severe thunderstorms accompanied by high wind, heavy rain, and hail ranging in size from 1/2 to 2 inches in diameter. Greatest damage in Lincoln, Spokane, Okanogan, Stevens, Adams, Douglas, Columbia, Franklin, and Whitman Counties. Severe thunderstorm in Okanogan County between 6 and 10 p.m. Orchards damaged by hail in Okanogan and Methow Valleys. Heavy rain caused landslide, which wrecked sawmill and damaged residence. Forest Service roads and trails washed out in Winthrop and Mazama areas. Several forest fires started by lightning. Damage in this area estimated at $100,000. Most severe thunderstorm near Reardan, in eastern Lincoln and western Spokane Counties between 6 and 8 p.m. Path of storm about 2 miles wide and 20 miles long. Hailstones ranged in size from 1/4 to 2 inches in diameter. Several thousand acres of wheat either damaged or destroyed, buildings damaged by hail, and heavy rain caused serious soil erosion. Crop damage estimated at $500,000 and property damage and soil erosion losses estimated at another $500,000. Another hailstorm damaged buildings and destroyed crops in smaller area in Stevens County near Chewelah. Hail varied in size from that of golf balls to baseballs. Lightning set fire to wheat field in Franklin County burning 1,500 acres of wheat and 4,500 acres of pasture land. Estimated that 10,000 acres or more of crops in State damaged by hail. Damaging hailstorms reported in Columbia, Adams, Whitman, and Walla Walla Counties. Heavy rain occurred in some areas, causing serious erosion.
Monmouth County, N.J.	16					4			Electrical	4 farm hands struck by lightning and injured, 1 seriously.
	16									Minor storms also reported near Tarpon Springs, Fla.; in Shelby County, Ky.; and at Durant, Guthrie, and Grandfield, and in Fort Gibson Dam area, Okla.
Florida	16-17				2	1			Electrical, wind, and rain	Thunderstorms from Gainesville and Trenton southward to Bradenton and Arcadia. Deaths and injury due to lightning on 17th. Numerous severe thunderstorms with lightning and wind as destructive features. Winds damaged structures and broke trees in several places. Lightning started several fires and caused considerable damage to appliances and power distribution systems.
Canyon Ferry Dam, Lewis and Clark County, Mont.	17	5:30 p.m.					22,500		Rain, hail, wind, and electrical	Damage mostly to roads. Storm moved eastward.
Idaho, south-central portion	17	9:30 p.m.							Wind, hail, rain, electrical, and dust	Power and phone lines broken in vicinity of Twin Falls. Large transformer burned out at Oakley. Falling tree crushed porch roof on house 7 miles north of Jerome. Tree branch went through windshield of car in Twin Falls. Hail about 12 miles south-southeast of Rockland, Power County.
Camp Breckenridge, Ky.	17				2				Electrical	2 fatalities result of lightning striking tree under which they were standing.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
	17									Minor storms also reported at Anderson, Ind.; in Fleming County, Ky.; in Lewis and Clark County, Mont.; in Carmen vicinity, Okla.; and near Greenville, Tex.
	17-18									Minor storm reported near Ethridge, Mont.
Beaumont Airport (1-1/2 miles south-southwest of), Jefferson County, Tex.	18	10:31 a.m.			0	0	$0	$0	Tornado	Funnel cloud, not reaching ground, moved northward.
Lamesa (8 miles southeast of), Dawson County, Tex.	18	11:15 a.m.			0	0	0	0	Tornado	Funnel cloud reported not touching ground.
Iuka and Preston areas, Pratt County, Kans.	18	12:37 p.m.			0	0	0	0	Tornadoes and rain	During heavy local rain, 2 small tornado funnels dipped momentarily to ground and then disappeared, neither caused any damage. One was 2 miles east of Iuka and the other southeast of Preston.
Pitt, Robeson, and Scotland Counties, N.C.	18	4-9 p.m.						10,000	Hail	3 square miles damaged, mostly tobacco in fields.
Owensboro, Ky.	18	4:45 p.m.			3				Electrical	Lightning struck tree, killing 3 boys who had sought shelter from storm in tree.
Kansas City area, Clay County, Mo.	18	5-6 p.m.	5	*3			300	Slight	Hail and wind	Hail rectangular, up to 3 inches long. Wind gusts 70 to 86 m.p.h., at Fairfax Airport. A few windows blown in. Storm moved northeastward.
California, southern portion	18	Evening							Wind, rain, and electrical	Power poles knocked down and areas "blacked out" in some regions around Palm Springs, Camp Irwin, and Barstow while lightning struck Gale substation of California Electric Power Company in San Bernardino County. Strong winds unroofed 2 houses and a church and wrecked business structure in Borrego Springs area. Near Beaumont many plums blown from trees. Several homes flooded and roads and highways washed out or inundated.
Florida	18								Electrical and wind	Thunderstorms in Panama City, Dunedin, Sarasota, and Fort Myers. Considerable lightning damage to appliances and fixtures. Television sets and antennas suffered greater part of damage. Structural damage due to wind at Panama City.
Galesburg and vicinity, Knox County, Ill.	18						10,000	5,000	Rain	Severe local flooding.
	18									Minor storms also reported in Wyandotte County, Kans.; in southern New Hampshire; at Grandfield, Okla.; in southern Vermont; and at Charlottsville, Va.
Fairhope, Baldwin County, Ala.	19	1:30 p.m.					5,000	13,000	Hail, wind, rain, and electrical	$3,000 of crop damage by hail. Hailstones 5/8 to 3/4 inch in diameter. Hail over area 1/2 by 3 miles. Storm moved northward.
Galveston (12 to 15 miles east-northeast of), Galveston County, Tex.	19	2:56 p.m.			0	0	0	0	Waterspout	Funnel observed from Weather Bureau Office.
McDuffie and Columbia Counties, Ga.	19	3-4 p.m.					Considerable	Slight	Wind, hail, rain, and electrical	High winds caused scattered damages from Thomson southward and eastward, extending into extreme western Columbia County. Mostly superficial damages done to homes and other buildings, including 1 roof blown off, TV aerials and other smaller objects blown down or damaged. Considerable power failures at scattered points; hail without damage occurred at Dearing, and lightning struck some trees setting grass afire near Thomson.
Transylvania and Jackson Counties, N.C.	19	3-4 p.m.					1,000	17,000	Hail	10 square miles damaged.
Grand Junction area, Colo.	19	Afternoon	15	*5			400	10,000	Wind, dust, hail, and rain	Storm moved northward.
Columbus, Muscogee County, Ga.	19	5 p.m.							Wind, rain, and electrical	High winds, estimated at 50 m.p.h., struck several points in northern Columbus, blowing over several trees, 2 of which fell on homes damaging roofs; several windows and blinds broken or damaged, and a number of house roofs suffered light to moderate

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Georgia (Cont'd)										damage. Some utility lines brought down by wind or falling trees, disrupting services in small areas. Heavy rains and lightning also occurred, but caused little damage.
Stanly County, N. C.	19	7 p.m.				1	$2,000	$4,000	Electrical, hail, and wind	Woman slightly shocked at Badin. Hail damaged crops; wind damaged roofs.
Statesville (near), Iredell County, N. C.	19	Night					10,000		Electrical	1 home destroyed and 1 damaged.
	19									Minor storms also reported in Borrego Valley, Calif.; at Burley, Idaho; at Springville, La.; near Peach Orchard, Mo.; in Pender County, N. C.; and near Chester and Ruby, S. C.
Tetonia area, Teton County, Idaho	20	3-4 p.m.	15	*2-6				Considerable	Hail and rain	Damage to crops patchy, ranging from slight to total damage in various fields. In many cases benefits from rain considered equal to damage from hail. Storm moved northeastward.
Cumberland, Columbus, Onslow, and Sampson Counties, N.C.	20	3-7 p.m.			2	22	10,000		Electrical	1 soldier killed, 8 injured, in tent struck by lightning at Fort Bragg; 1 woman killed, 2 injured, at Turkey tobacco barn; 12 women shocked at tobacco barn near Fair Bluff. 70-foot chimney and other structures damaged.
Roundup, Musselshell County, Mont.	20	5:15 p.m.	15-20	*10			Considerable		Rain and electrical	Flooded streets and basements. Storm moved northeastward.
Wisner (near), Nebr.	20	Evening				1	Light		Electrical	Man shocked and badly burned while repairing damaged wires.
Venice, Naples, and Islamorada, Fla.	20					1	1,500		Electrical	Injury and property damage due to lightning.
	20									Minor storms also reported at Natchez, Ala.; in Pickens County, Ga.; near Bloomfield, Nebr.; in Mecklenburg County, N. C.; and in Giles County, Tenn.
Helena (near), Phillips County, Ark.	21	2:45-4:30 p.m.	8-10	*5			Minor	Considerable	Wind, electrical, and rain	Lightning struck transformer in West Helena, disrupting electrical service. Farming areas suffered considerable wind damage to corn and beans.
Springfield, Greene County, Mo.	21	5:15 p.m.			1				Electrical	Woman struck by lightning, killed instantly.
Idaho, south-central portion	21						Considerable		Rain	Damage mainly from flash flood action in several localized areas from south of Rogerson northward to Galena Summit. Roads and highways littered with silt and sage brush, some road surfacing damaged, and some damage to dam at Salmon Falls Reservoir.
	21									Minor storms also reported at Natchez, Ala.; and near Urich, Mo.
Leevining Peak, Mono County, Calif.	21-22	3 p.m. 21st-5 p.m. 22d	2	500			185,000		Rain, hail, and electrical	Occurred both days at same location. Heavy rain caused landslides that buried automobiles, cabins, and 2 highways under tons of mud and debris estimated at 50 feet in some places.
Virginia and vicinity, St. Louis County, Minn.	21-22						102,500		Rain, electrical, and wind	Runoff from heavy rain polluted Virginia Water Reservoir as red ore sediment washed in. Basements, streets, and highways flooded; washouts occurred. Some lightning occurred, damage $2,500. Estimate of damage from heavy rainfall $100,000. Storm moved northeastward.
Elmwood, Pierce County, Wis.	22	2 p.m.	2	*1/8	0	0	1,000	Light	Tornado (suspected), wind, rain, and electrical	No funnel cloud observed. Loud roar heard, similar to low-flying airplane. Trees twisted and uprooted. Storm moved northeastward.
Sevier and Little River Counties, Ark.	22	2:30 p.m.				2	2,000		Electrical and rain	2 persons struck by lightning while seeking shelter under large tree near De Queen. Lightning set fire to barn west of Foreman.
Lincoln Air Base, Nebr.	22	2:45 p.m.			1				Electrical	Air Force man struck and killed; was refueling plane, but no fire resulted.
Nez Perce County, Idaho	22	3 p.m.	1-1/2	*1/2				7,000	Hail, wind, and rain	1/2-inch hailstones fell for 20 to 30 minutes at Redbird community, destroying 100-acre field of peas and damaging fields of wheat and barley. Winds of about 45 m.p.h., accompanied storm. Storm moved northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Bisbee-Willcox area, Cochise County, Ariz.	22	Afternoon				1	$12,000		Rain, wind, hail, and electrical	Rain-loosened dirt caused wall of home to cave in at Bisbee. Livestock auction barn damaged at Willcox.
Illinois, northern portion	22	Afternoon			1		5,000	$5,000	Electrical, wind, and hail	A few severe local thunderstorms over narrow belt from Stephenson to Cook Counties. Minor wind and hail damage in Freeport area; 1 man killed by lightning in Chicago area.
Codell (southeast of), Rooks County, Kans.	22	Afternoon							Wind, hail, and electrical	Sudden gust of wind damaged large barn, broke trees, and unroofed small buildings. Some lightning damage also.
Superior (near), Nebr.	22	Afternoon					5,000	Considerable	Wind and hail	
Okanogan, Malott, and Omak areas, Wash.	22	Late afternoon	20	*2			25,000	75,000	Wind, hail, and electrical	Greatest damage to orchards in Okanogan, Malott, and Omak areas. 1 small plane and several buildings and trees damaged by wind and hail. Several forest fires started by lightning. Storm moved northward.
Phoenix, Maricopa County, Ariz.	22	Evening					10,000		Wind, rain, hail, and electrical	Severe thunderstorm with locally high wind. Storm moved northwestward.
White Bird, Idaho	22					1			Electrical	Cattleman injured by force of lightning strike as he was riding range. Large lump appeared behind his ear, his trousers were split, and soles of his shoes loosened.
	22									Minor storms also reported at Slidell, La.; at Corrales, N. Mex.; and at Luxemburg, Wis.
Fort Supply, Woodward County, Okla.	23	1-1:30 a.m.	2	200	0	0	1,500	Minor	Tornado (suspected), wind, and rain	Tornado moving northeastward tore off several store awnings and damaged several TV antennas.
Valparaiso area, Porter County, Ind.	23	1:30 a.m.					10,000		Electrical and rain	Barn and contents destroyed by lightning. 2 or 3 houses also damaged by lightning.
Foley (near), Ala.	23	6:30 a.m.				4	5,000		Electrical	Lightning hit patrol boat on Wolf Bay.
Double Bayou, Chambers County, Tex.	23	10:30 a.m.			0	0	0	0	Tornado and rain	Funnel cloud not reaching ground, 8 miles south of Anahuac, moved northeastward. Also reported by pilot.
Illinois, north-central portion	23	Afternoon			1		100,000	75,000	Rain, wind, hail, and electrical	Locally heavy rains, strong winds, and some hail occurred at spotty points in Rock Island, Peoria, Tazewell, La Salle, and Cook Counties. Damaging urban flooding in communities of East Moline, Ottawa, Peoria, and Chicago. Tents leveled at both Peoria and Lincoln, and boy killed by lightning at Joliet.
Dillon (7 miles north of), Beaverhead County, Mont.	23	Afternoon	2	*1-1/4				50,000	Hail, rain, and electrical	
Vermont, New Hampshire, and Maine	23	3-6 p.m.					5,000		Hail, rain, and electrical	Hail size of golf balls fell briefly in Woodstock, Vt.
Parsons (10 miles northeast of), Labette County, Kans.	23	4:30 p.m.			0	1			Tornado (suspected) and wind	Loud-pitched whine heard; sudden onset of wind or gust destroyed implement shed. Boy rendered unconscious when he took refuge under a tractor.
Washington vicinity, D. C.	23	5-7 p.m.					10,000		Electrical	Barn and hay burned from lightning strike.
Greater St. Louis area, St. Louis County, Mo.	23	7:30 p.m.					100,000		Electrical, rain, and wind	Considerable damage to boats along Mississippi River and to utility lines; basements flooded in various parts of City and County.
Springfield, Greene County, Mo.	23	7:30 p.m.			0	0	10,000	0	Tornado (suspected), electrical, wind, rain, and hail	Porch blown off residence and several trees blown over. Lightning caused fire which destroyed old school house.
Union, Baker, and Wallowa Counties, Oreg.	23	Evening	40-50	*20-30		1	3,500	6,500	Electrical, wind, rain, and hail	Comparatively severe thunderstorm with fairly high winds and heavy rains in local areas. Most damage caused by lightning-set fires. Some trees uprooted by wind and powerlines downed. 1 person seriously injured by lightning.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Las Vegas, Nev.	23						$65,000		Rain	Thunderstorm produced flash-flood conditions.
	23									Minor storms also reported at Attica and in South Bend and Mishawaka areas, Ind.; in Lewisburg and vicinity, W. Va.; and at Medicine Bow, Wyo.
Duval County, Fla.	23-24	Afternoons			1	1			Electrical, wind, rain, and hail	Death and injury due to lightning on 23d. Record heavy rain in Jacksonville for 10- and 15-minute periods on 23d. Structures damaged and trees broken by wind on 24th. Hail on 24th.
Washington, eastern division	23-24	Evening-early morning					200,000	$400,000	Wind, rain, hail, and electrical	Thunderstorm activity over most of eastern Washington, with most severe storms in Lincoln, Spokane, Grant, Douglas, Yakima, and Garfield Counties. Thunderstorm activity reached peak during early morning hours of 24th. Lightning caused power outages in all areas of eastern Washington. Lightning set fire to maintenance shop in Selah, Yakima County; forest fires started in several areas, 7 being reported near Colville. Largest area receiving heavy damage from wind, hail, and heavy rain in northern Lincoln and Grant Counties in vicinity of Hartline, Harrington, and Wilbur. 2 barns destroyed, television antennas wrecked and a number of trees blown over in this area. Hail damaged and destroyed several thousand acres of crops. Heavy rain caused serious erosion, and 30 head of sheep lost in flash flood along small stream.
Arkansas, central portion	24	Afternoon				2	10,000		Wind, electrical, and rain	Lightning struck several places, with minor damage at each in Conway, Clarksville, Russellville, Little Rock, and North Little Rock. Phones and power disrupted. 2 persons suffered minor injuries as result of lightning at Clarksville. Wind damage mostly in Paris and vicinity, where several small buildings, trees, and television aerials damaged. Wind losses estimated at $3,000.
Kansas, southeastern portion	24	Afternoon				2			Electrical	Lightning damaged several properties. House and contents, 8 miles southeast of El Dorado, burned. 2 women stunned near McCune.
Maceo, Daviess County, Ky.	24	5:30 p.m.					14,000		Electrical and rain	Lightning touched off blaze in stock barn, destroying barn and 4 prize Percheron horses.
Atlantic City, N. J.	24					5	6,000		Wind	Some damage to lifeboats and equipment of beach patrol. 5 lifeguards injured, not seriously.
Henderson (near), Nev.	24						85,000		Rain	Thunderstorm produced flash-flood conditions.
	24									Minor storms also reported at Gentry, Ark.; near Watervale, Colo.; at Poplar, Mont.; and at Tulsa, Okla.
Idaho, northern portion	24-25	P.m.-a.m.					1,500	8,000	Electrical, rain, wind, and hail	Widespread thunderstorm activity, accompanied by wind, rain, and hail, extended from vicinity of White Bird to extreme northern Idaho, causing local flash floods, damaging crops, and setting fire to brick plant at Roy, burning out transformers, and breaking numerous power and telephone lines throughout area.
Idaho, southeastern portion	24-25						13,700	12,000	Rain and electrical	Local flash floods accounted for most of crop damage and covered highways and railroad with silt and debris in vicinity of McCammon and at Strevell, and set fire to barn near Downey.
High Springs, Fla.	25	9 a.m.				2			Electrical	Injuries due to lightning
Douglas, Cochise County, Ariz.	25	10 a.m.			0	0	0	0	Tornado	Funnel cloud observed, but not observed reaching ground. Funnel first reported by pilot of aircraft approaching from Mexico at approximately 10:25 a.m. Observed at approximately 10:30 a.m., as funnel-type cloud hanging vertically from base of cloud between 2 rain showers. Funnel estimated to extend 3 to 5 hundred feet below base of cloud. Continuous observation not possible due to heavy air-ground activity. Direction of movement not determined, although city of Douglas had very heavy rain between 11:00 a.m., and noon, indicating that storm movement was from west to east or southwest to northeast. Funnel apparently over Mexico and if any damage occurred, it has not been reported to date.
Gunpowder River, Baltimore County, Md.	25	10:30 a.m.			1				Wind and rain	Man drowned when squall capsized rowboat.
Lewis and Clark and Jefferson Counties, Mont.	25	1:15 p.m.	15	3,000			10,000	150,000	Hail, wind, rain, and electrical	Occurred in area from Clancey to Canyon Ferry Dam. Wheat damaged, poultry killed, and windows and roofs damaged. Storm moved north-northeastward.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Almeda, Harris County, Tex.	25	2:30 p.m.							Wind and electrical	House destroyed by fire caused by lightning. Several other structures damaged. Wind estimated at 75 m.p.h.
Danvers, Mass.	25	3 p.m.					$10,000		Electrical	In Danvers lightning caused fire that destroyed barn and 7 cows, total evaluation $10,000.
Coffee Creek area, Fergus County, Mont.	25	4 p.m.	10	*2				$135,000	Hail, wind, rain, and electrical	$10,000 wind damage; $125,000 hail.
Williamston, Martin County, N. C.	25	4 p.m.				1			Electrical	Man struck by lightning.
Hobson area, Judith Basin County, Mont.	25	4 p.m.	25	*7			700	250,000	Hail, wind, rain, and electrical	Damage to barn by lightning $350. Wheat fields and gardens flattened. Windows broken, utilities disrupted.
Broadus (30 miles south of), Powder River County, Mont.	25	Afternoon			1				Electrical	Girl killed by lightning strike, playing on roof of building.
Angier (near), Harnett County, N. C.	25	Afternoon			1				Electrical	Boy killed by lightning.
Opheim-Baylor areas, Valley County, Mont.	25							200,000	Hail and rain	
	25									Minor storms also reported from Nimrod to Bearmouth, Mont.; near Thacher, Nebr.; near Travelers Rest, S. C.; and at Douglas, Wyo.
Crowley-Ordway areas, Colo.	26	Midafternoon	9	*1			3,000	Heavy	Wind, hail, and rain	Wind near gale proportions and heavy hail. Poultry losses estimated at $3,000. Storm moved eastward.
Southwestern Garden and western Keith Counties, Nebr.	26	Afternoon	12	*Several			20,000	Considerable	Hail	Most wheat had been harvested, or damage would have been greater.
Earth (9 miles northeast of), Lamb and Castro Counties, Tex.	26	3 p.m.	10	*1				300,000	Hail, rain, and electrical	8 square miles of growing crops damaged. Storm moved southeastward.
Olton (8 miles southwest of), Lamb County, Tex.	26	3:30 p.m.	3-1/2	*1/2			5,000	25,000	Hail and rain	Severely damaged growing crops. Storm moved southeastward.
Sudan (6 miles west of), Bailey County, Tex.	26	4:30 p.m.			2	10			Electrical and rain	Lightning struck in group of laborers chopping cotton. Storm moved northward.
Sedgwick and Phillips Counties, Colo.	26	Evening	7	*5			Moderate	Heavy	Hail, rain, and wind	Hail damaged buildings and crops, killed poultry, and bruised livestock.
Wilson (5 miles northwest of), Lynn County, Tex.	26								Hail	100 acres of cotton 90 percent destroyed.
Monahans (5 miles south of), Ward County, Tex.	26				1				Electrical	Man killed by lightning while plowing.
	26									Minor storms also reported at Granite and Ignacio, Colo.; and at Thurston, Wash.
Green Bay, Brown County, Wis.	27	7:35 a.m.					505,000		Electrical, wind, and rain	Lightning struck and set fire to wood-pulp warehouse, resulting fire destroyed 5 warehouses. 40-foot chimney and wall also demolished by lightning. Some utility lines also knocked down.
Denver, Colo.	27	2:30-3:15 p.m.; 5-7 p.m.	12	*2			30,000		Rain, wind, hail, and electrical	Heavy rain with some wind and hail in southeastern section of Denver and moved northwestward across City and suburbs. From 1 to 3 inches of rain. Streets, yards, and basements flooded, storm sewers clogged, lakes overflowed, and traffic tangled.
Lower Michigan, southeastern portion	27	Afternoon			1	5	200,000		Wind, rain, and electrical	High winds downed or damaged large number of trees and did considerable damage to utility lines and other property. Heaviest damage in Greater Detroit area, but

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Lower Michigan (Cont'd)										losses also occurred around Lansing and Jackson. Man killed by falling tree in Detroit.
Garden County, Nebr.	27	7:30 p.m.				1			Electrical	Man struck and badly shocked.
Clark and Floyd Counties, Ind.	27	Night (p.m.)				1	$2,000		Electrical, wind, and rain	1 man injured when house struck by lightning in New Albany. House struck in Clark County with $1,000 damage.
Pennsylvania, southwestern portion	27	P.m.			1		100,000		Electrical, rain, wind, and hail	Near Kittanning, lightning set fire to barn; damage estimated at $10,000. Near Butler, another barn valued at $25,000 destroyed by lightning and resulting fire. In Turtle Creek area near Pittsburgh, runoff from heavy rains flooded many cellars and washed out surface of several streets. Clean-up and repair estimated in excess of $100,000.
	27									Minor storms also reported in Hardin County, Ky.; at Hancock, Md.; near Post, Tex.; and at Huntington, W.Va.
Glendive (north of), Dawson County, Mont.	27-28	11 p.m.-a.m.	30	*2-1/2					Hail, wind, rain, and electrical	Hail damage reported as moderate to heavy. Storm moved northeastward.
Tampa Bay area, Fort Myers, and Miami, Fla.	27-28				0	3			Tornado, wind, rain, hail, and electrical	Severe thunderstorm produced funnel cloud northwest of Miami Airport and hail in Miami on 28th. Lightning caused injuries and was destructive feature of storm. Lightning started several fires and heavily damaged many appliances and wiring systems. Wind damaged several structures in Tampa Bay area. Heavy rain damaged roadways and drainage systems.
Weyerhauser area, Rush County, Wis.	27, 29, 30						Light	Heavy	Hail and electrical	Hail size of hens' eggs laid low oats and corn, some damage to buildings. Some cattle killed by lightning on 27th, 29th, and 30th near Weyerhauser.
Belton area, Anderson County, S. C.	28	1 a.m.					80,000		Electrical	Lightning struck and burned Rice Mills at Belton during severe thunderstorm.
Birmingham, Jefferson County, Ala.	28	Midafternoon							Wind, electrical, and rain	Although no wind damage reported, a gust of 60 m.p.h., observed at Weather Bureau Airport Station. 11 houses hit by lightning with damage mostly in connection with electrical appliances.
Vernon (5 miles south of), Wilbarger County, Tex.	28	3:40 p.m.			0	0		$0	Tornadoes, wind, rain, and electrical	5 funnels sighted by State Highway Patrol; 1 touched ground, partly destroying farm building. Storm moved westward.
Sullivan County, Tenn.	28	5 p.m.					25,000	Slight	Electrical and wind	Thunderstorm struck barn, destroying building and 10,000 bales of hay. Telephone and powerlines blown down.
Anthony-Canutillo area, El Paso County, Tex.	28	5 p.m.							Hail and rain	Hailstones as large as doves' eggs damaged 600 acres of cotton and vegetable crops.
El Campo (north-northeast of), Wharton County, Tex.	28	5 p.m.			0	0	0	0	Tornado	Funnel observed, not reaching ground.
Lincoln County, N. C.	28	5 p.m.					10,000		Wind	Several buildings and 1 auto damaged; some livestock killed.
Bache, Pittsburg County, Okla.	28	6:15 p.m.	15	*3			10,000	Minor	Wind, rain, and electrical	1 farmhouse moved off foundation; several smaller farm buildings unroofed on at least 4 other farms. Storm moved eastward.
West Palm Beach (6 miles north-northwest of), Fla.	28	6:31 p.m.			0	0	0	0	Tornado	Funnel cloud, not touching ground, observed from airport.
La Grange, Troup County, Ga.	28	Early night				1	500		Electrical and rain	Thunderstorm with considerable lightning flashes prevailed about 2 hours. Lightning struck 3 homes and a store, causing only moderate damage, as plaster knocked from walls, weather boarding ripped off, and wire connections damaged. Utility lines also suffered damage, more than 300 phones knocked out. Heavy rains flooded streets and filled sewers with debris.
Hennepin, Stearns, and Morrison Counties, Minn.	28	8 p.m.					47,000	Light	Wind, electrical, hail, and rain	1 barn blown down; other buildings and machinery damaged; grain shocks and hay stacks scattered. Lightning destroyed 1 barn and killed or injured livestock. Local heavy hail damaged crops and property. Minor wind damage in Minneapolis proper. Damage from wind $40,000, from lightning $7,000.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Clinton, Tenn.	28				1				Electrical	Man killed by lightning.
Morristown, Tenn.	28				1				Electrical	Woman died of heart attack when lightning struck nearby barn.
	28									Minor storms also reported at Anthony, N. Mex.; and in Alexander and Sampson Counties, N. C.
Anahuac (20 miles northeast of), Liberty County, Tex.	29	9:37 a.m			0	0	$0	$0	Tornado	Pilot reported funnel not reaching ground.
Oshkosh, Winnebago County, Wis.	29	2 p.m.					Considerable		Electrical, wind, and rain	Lightning struck and set fire to oil company warehouse. Fire destroyed warehouse and contents, "carload of oil and grease." Lightning also struck 2 other homes at approximately same time; damage minor.
Bowdon, Carroll County, Ga.	29	Afternoon					Considerable		Electrical and rain	Building under construction struck by lightning, exact effect uncertain; building collapsed partly from lightning, but mostly from undermining effects of heavy rain on foundation of building. Losses from collapse of building probably amounted to as much as $5,000.
Sterling (near), Nebr.	29	Afternoon				1			Electrical	Woman sitting under tree struck and injured with third degree burns.
Grant and Otter Tail Counties, Minn.	29	3:30 p.m.					100,000	Moderate	Wind, hail, rain, and electrical	Several barns and outbuildings demolished, others damaged; trees uprooted; utility services disrupted. Locally moderate to heavy hail, reported size of baseballs. 8 miles northeast of Wheaton, all buildings on a farmstead wrecked. Storm moved eastward.
Lee County, N. C.	29	4 p.m.				1	1,000		Electrical	Woman knocked unconscious. Mule killed in tobacco field. Several transformers damaged.
Galveston (5 miles north-northeast of), Galveston County, Tex.	29	4:02 p.m.			0	0	0	0	Waterspout	Sighted over East Bay.
Pahokee, Fla.	29	5 p.m.			0	0	5,500	0	Waterspouts	10 waterspouts observed over Lake Okeechobee and 1 moved ashore to partially unroof store and snap off utility pole. Storm moved eastward.
Anderson, Abbeville, and Hampton Counties, S. C.	29						10,000		Electrical	Lightning burned 3 barns near Anderson, $5,000 damage. In Due West area, lightning struck home, $4,000 damage. Hampton area, lightning damaged utilities, $1,000 damage.
	29									Minor storms also reported at Chatom, Dothan, and Columbia, Ala.; at Gainesville and Vienna, Ga.; and at Norwick, Conn.
Meadowlands and vicinity, St. Louis County, Minn.	29-30	P.m.-a.m.					60,400	Moderate	Electrical, wind, and rain	Trees uprooted, buildings unroofed or damaged, corn and grains lodged. Power substation struck by lightning, burnt out. Lightning killed livestock. Lightning damage estimated $60,400. Storm moved eastward.
Frazee vicinity, Becker County, Minn.	30	6 a.m.					25,000	Light	Wind, hail, electrical, and rain	Barn demolished; outbuildings and silo damaged; cattle killed; numerous other buildings damaged; trees uprooted. Heavy rains and hail accompanied storm.
Caledonia and vicinity, Houston Coun- Minn.	30	1 p.m.	.6	*3			100,000	10,000	Wind, rain, hail, and electrical	Implement warehouse and barn under construction demolished; trees uprooted; poles and wires downed; windmill wrecked; brick wall of residence toppled; growing crops and fruit trees damaged. Heavy rains accompanied storm. Storm moved northeastward.
Cairo, Grady County, Ga.	30	3 p.m.					Considerable		Electrical, rain, and wind	Lightning and heavy rains heavily damaged telephone cables, lines, and transformers, but powerlines only slightly damaged. High winds broke off tops of some trees with no other important damage. Telephone services disrupted throughout city 7 hours or longer, and about a week required to complete all repairs.
Fort Lauderdale-Dania areas, Fla.	30	Afternoon	Short	Narrow	0	0		0	Tornado (suspected), wind, rain, and electrical	Described as small tornado, snapped 2 powerline poles. Some property damage due to lightning. Winds estimated 40 to 50 m.p.h., in Fort Lauderdale-Dania area and heavy rains flooded streets.
Empire (10 miles south of), Plaquemines Parish, La.	30	Afternoon			2	2			Wind	Squalls, probably associated with hurricane "Brenda" in its formative stage, capsized boat in Pelican Pass, resulting in 2 deaths by drowning.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Iowa, central portion	30	P.m.					$ 10,000		Rain and hail	Heavy showers with hail damaged buildings and crops.
Gresham, Shawano County, Wis.	30	P.m.			1				Electrical, wind, and rain	Man killed as lightning struck tree and grounded through his body
Elroy, Juneau County, Wis.	30						15,000		Electrical	Lightning struck and set fire to barn, completely destroyed building and 700 bales of hay.
	30									Minor storms also reported at El Dorado, Ark.; and near Denmark, Wis.
Oconomowoc and vicinity, Waukesha County, Wis.	31	5 a.m.					100,000	Moderate	Rain, wind, hail, and electrical	Rainfall of 4.60 inches fell between 5 a.m., and 7 p.m. 3 inches fell in 30-minute period near 5:30 a.m. Basements of downtown stores and residences flooded, several new basement walls collapsed. Small grains and corn fields flooded. Many trees blown down by winds estimated at 60 m.p.h. Storm moved southeastward.
Caledonia and vicinity, Houston County, Minn.	31	Noon-4 p.m.	8	*2			22,200	$5,000	Wind, electrical, hail, and rain	Town and farm buildings damaged; growing crops damaged. At Home Ridge, near Caledonia, cattle killed by lightning, loss estimated at $2,200. Heavy rains accompanied storm, some additional damage resulted. Storm moved northeastward.
Green Bay, Brown County, Wis.	31	1 p.m.				Several	Moderate		Electrical	Lightning injured several persons and damaged utility installations. Underground power cable to airport knocked out by lightning.
Chippewa Falls, Chippewa County, Wis.	31	2 p.m.					10,000		Electrical, wind, and rain	Lightning struck and damaged many buildings. Storm moved eastward.
Arcadia, Oklahoma County, Okla.	31	3-4 p.m.			0	0	15,000	Minor	Tornado (suspected), wind, rain, and hail	Tornado moving southeastward severely damaged partially completed school building.
Marquette County, Wis.	31	5:10 p.m.			0	0	50,000	25,000	Tornado (suspected), wind, hail, and rain.	10 barns and numerous other small buildings destroyed. Hail 1/3 inch in diameter damaged standing crops. Heavy rainfall runoff eroded many corn fields. Damage at 1 farmstead at Newton showed evidence of tornado action. Storm moved south-southeastward.
Fort Garland, Costilla County, Colo.	31		1/2	100	0	0	1,000	0	Tornado and wind	Storm razed several small buildings, damaged trees, and killed some poultry.
	31									Minor storms also reported at Vienna, Ga.; near Long Pine, Nebr.; and at Blue River, Centerville, Madison, and in Shawano and vicinity, Wis.
Howard and Winneshiek Counties, Iowa	31	3:30 p.m.					4,000	15,000	Rain and hail	Heavy shower with hail damaged crops and buildings.

* Miles instead of yards.
** Yards instead of miles.
° Includes damage to crops.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JULY 1955

There was no major flooding during July. Damages resulting from localized overflows were relatively low.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Minor flooding occurred on the extreme lower Root River at Hokah, Minn., and on the lower Zumbro River at Theilman, Minn., on the 8th from heavy thundershowers during the night of the 7th-8th. Some of the heavy rainfall amounts reported were: Caledonia, Minn., 3.84 inches; Hokah, Minn., 3.25; Theilman, Minn., 2.47; and Zumbro Falls, 2.65 inches.

Heavy local thundershowers in the Webster City, Iowa, area on the 6th resulted in rapid rises of streams in that area. In the Webster City area considerable damage was done within the city as a result of rapid runoff and accumulation of water backed up from storm sewers. The river itself did not get high enough to cause serious damage and the crest flattened rapidly as the water moved downstream.

Missouri River Basin.--Heavy rain during the night of the 9th-10th, caused substantial rises near the mouths (and about 10 miles upstream) of Perry Creek and the Floyd River in Iowa. Neither of these streams caused any flooding or flood damage at Sioux City, Iowa, where the heavy rains (6 inches during a 3- to 4-hour interval) were concentrated. However, surface runoff directly from rainfall was excessive and caused considerable damage all over the city. The only flooding was on the Floyd River at James, Iowa.

Minor flooding occurred on the Blue River at Kansas City, Mo., on the 6th, and on the Nishnabotna River at Hamburg, Ia., on the 9th, from the intense rains on the morning of the 6th. An average of near 3 inches fell in the center of the Blue River Basin at Kansas City.

A flash flood caused considerable damage between Blair and Wathena, Kans., about 3 a.m. on the 6th due to heavy rain (4 inches) which fell in a few hours over Peters Creek. Several bridges were washed out and crops in the valley destroyed. No damage resulted on the Nishnabotna River due to levee protection.

WEST GULF OF MEXICO DRAINAGE

Heavy thundershowers on the 16th and 17th caused extensive flooding on the Turkey Creek watershed and bankfull with some flooding of low lying areas on Nueces River from Crystal City to near Three Rivers, Tex. Rainfall average was from 2 to 3 inches with some heavy amounts of 5 inches. During the 3-day period from the 17th to the 19th, 20 inches of rainfall was reported on Finley Ranch, 12 miles west of La Pryor, Tex., and 9 inches, 5 miles south of Uvalde, Tex. Observers report the flood on the Turkey Creek was almost as high as that of last year caused by hurricane "Alice".

PACIFIC SLOPE DRAINAGE

Columbia Basin.--The lower Columbia at Vancouver, Wash., and the Willamette at Portland, Oreg., continued above flood stage into July. Crest stages of 19.5 and 19.3 feet, respectively, at Vancouver and Portland, reached on June 27 and 28, were again equaled on July 2, but not exceeded. The Willamette, because of cool rainy weather the last few days in June, contributed sufficiently to cause the equaling of the former crests. Flood damage was light.

There were several localized flash floods in the Upper Columbia Basin in Idaho during the month. On July 16, flash floods inundated some city streets and a part of the city's residential area at Pocatello.

On July 21, thunderstorms caused some damage to roads and to the Salmon Falls Dam in the south-central part of the State. Highway 95 was temporarily blocked by mud and water runoff between White Bird and Slate Creek in Idaho County on the 24th. On the 24th also, and again on the 25th, mud, trees and debris covered the highway about 6 miles north of McCammon and a part of the Union Pacific Railroad right-of-way. On the 25th a flash flood on Dairy Creek, about 7 miles west of McCammon, did damage estimated to run into thousands of dollars.

FLOOD STAGE DATA

Table 5

(All dates in July unless otherwise specified)

JULY 1955

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM Upper Mississippi Basin					
Zumbro: Theilman, Minn.	35	8	8	37.5	8
Root: Hokah, Minn.	47	8	8	47.9	8
Boone: Webster City, Iowa	10	6	6	11.1	6
Missouri River Basin					
Blue: Kansas City, Mo. (Banister Road)	21	6	6	21.15	6
Nishnabotna: Hamburg, Iowa	18	9	9	19.2	9
Ohio Basin					
Wabash: Wabash, Ind.	12	16	16	14.1	16
Lafayette, Ind.	11	17	18	12.55	17
PACIFIC SLOPE DRAINAGE Columbia River Basin					
Willamette: Portland, Oreg.	18	June 12	5	19.3	June 27, 28 July 2
Columbia: Vancouver, Oreg.	15	June 10	11	19.5	June 27, 28 July 2

*Provisional

RADIOSONDE DATA

Average monthly values

Standard pressure surface (mb)	ALBUQUERQUE, N. MEX. (838 MB.)				ANCHORAGE, ALASKA (1008 MB.)				ANNETTE, ALASKA (1012 MB.)				ATLANTA, GA. (983 MB.)				BARROW, ALASKA (1013 MB.)				BETHEL, ALASKA (1010 MB.)				BISMARCK, N. DAK. (953 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,619	24.4	43	31	42	17.8	53	31	37	14.5	77	31	309	24.3	84	31	8	4.1	93	31	4	14.2	75	31	505	22.6	71
1,000	31	36			31	102	17.0	55	31	135	13.8	77	31	155			31	113	3.8	89	31	88			31	80		
950	31	503			31	537	13.6	58	31	570	11.1	77	31	605	24.3	72	31	538	7.0	80	31	514	9.4	81	31	537		
900	31	988			31	990	10.4	62	31	1,016	8.4	77	31	1,078	21.7	70	31	978	7.3	71	31	963	6.5	83	31	1,005	21.8	60
850	31	1,493			31	1,462	6.9	66	31	1,486	5.7	75	31	1,573	18.5	72	31	1,447	5.7	64	31	1,431	4.5	82	31	1,500	19.0	57
800	31	2,025	22.1	41	31	1,957	3.3	69	31	1,980	3.3	74	31	2,091	14.9	75	31	1,941	3.3	62	31	1,923	2.3	80	31	2,018	16.1	53
750	31	2,586	17.9	44	31	2,483	.2	67	31	2,507	1.0	66	31	2,638	11.7	73	31	2,469	.6	53	31	2,443	.3	75	31	2,570	12.7	52
700	31	3,167	13.3	49	31	3,028	- 2.8	64	31	3,054	- 1.9	62	31	3,210	8.4	71	31	3,013	- 2.5	49	31	2,995	- 2.3	68	31	3,140	9.2	50
650	31	3,791	8.3	55	31	3,617	- 6.1	55	31	3,644	- 4.9	55	30	3,824	5.0	69	31	3,605	- 5.8	49	31	3,579	- 5.2	62	31	3,754	5.5	43
600	31	4,442	3.2	60	31	4,234	- 9.5	46	31	4,265	- 8.5	54	30	4,471	1.4	67	31	4,221	- 9.3	46	31	4,204	- 8.4	58	30	4,403	1.2	38
550	31	5,142	- 2.1	65	31	4,902	-13.6	43	30	4,935	-13.0	50	30	5,173	- 2.3	58	31	4,895	-13.5	43	31	4,874	-12.3	54	30	5,096	- 3.5	36
500	30	5,890	- 7.0	62	30	5,621	-18.4	40	30	5,654	-17.2	38	30	5,920	- 6.5	52	31	5,606	-18.6	44	31	5,595	-17.1	49	30	5,843	- 8.5	
450	30	6,715	-11.9	52	30	6,404	-23.7	37	30	6,441	-22.7	35	29	6,747	-11.5	54	31	6,394	-24.0	47	31	6,383	-22.6	47	30	6,661	-14.0	
400	30	7,597	-17.8	44	30	7,249	-29.8	39	30	7,289	-28.8		29	7,630	-17.4	47	31	7,233	-30.1	47	31	7,230	-28.7	43	30	7,535	-20.3	
350	30	8,581	-25.0	46	30	8,186	-36.7		30	8,229	-36.4		29	8,615	-24.7	43	31	8,168	-37.6		31	8,170	-35.8		29	8,511	-27.3	
300	30	9,683	-33.1	43	30	9,235	-44.3		30	9,280	-44.0		29	9,717	-33.5	40	31	9,213	-45.2		31	9,224	-42.9		29	9,603	-35.2	
250	30	10,939	-42.3		30	10,435	-51.0		30	10,482	-50.2		29	10,969	-43.5		31	10,409	-51.4		31	10,432	-48.7		29	10,850	-43.8	
200	30	12,411	-53.3		30	11,889	-49.0		30	11,933	-49.9		29	12,431	-55.5		31	11,857	-49.3		31	11,893	-48.7		28	12,327	-53.3	
175	30	13,258	-58.9		29	12,768	-48.2		30	12,807	-49.2		29	13,269	-61.9		31	12,737	-46.9		31	12,773	-47.1		28	13,177	-57.6	
150	30	14,213	-63.9		29	13,781	-48.5		30	13,816	-49.6		29	14,209	-67.3		31	13,757	-46.8		31	13,790	-47.4		27	14,150	-60.9	
125	26	15,314	-67.5		29	14,978	-49.2		30	15,006	-50.6		26	15,300	-69.0		31	14,965	-46.6		31	14,990	-48.7		26	15,275	-62.3	
100	24	16,654	-67.0		28	16,435	-49.4		30	16,457	-51.1		21	16,638	-67.1		31	16,443	-46.4		31	16,453	-49.0		26	16,648	-62.2	
80	21	18,008	-63.1		27	17,898	-49.2		30	17,906	-51.5		16	17,986	-64.4		30	17,923	-46.0		31	17,916	-48.7		24	18,038	-59.5	
60	21	19,790	-59.9		25	19,787	-48.5		27	19,772	-51.4		14	19,766	-60.6		29	19,836	-45.3		29	19,806	-48.6		22	19,841	-57.0	
50	21	20,933	-57.7		23	20,988	-47.9		25	20,955	-51.2		13	20,909	-58.2		29	21,053	-44.7		29	21,004	-48.0		18	21,009	-54.8	
40	20	22,352	-54.1		15	22,472	-47.5		21	22,408	-50.1		12	22,319	-55.5		27	22,541	-44.2		27	22,472	-47.4		16	22,440	-52.7	
30	18	24,206	-51.6		5	24,381	-47.4		9	24,290	-48.8		10	24,181	-51.0		12	24,455	-44.0		22	24,380	-46.9		13	24,317	-49.6	
20	10	26,867	-47.6										5	26,815	-47.3													

Standard pressure surface (mb)	BOISE, IDAHO (911 MB.)				BROWNSVILLE, TEX. (1013 MB.)				BUFFALO, N. Y. (994 MB.)				BURRWOOD, LA. (1016 MB.)				CAMAGUEY, CUBA (1002 MB.)				CARIBOU, ME. (991 MB.)				CHARLESTON, S. C. (1017 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	29	868	24.1	40	31	7	26.9	83	31	182	22.4	74	31	3	26.6	83	23	122	23.3	94	31	191	18.2	73	31	13	24.6	91
1,000	29	41			31	121	26.3	83	31	130			31	144	26.4	79	23	135	23.4	93	31	113			31	159	25.1	82
950	29	503			31	582	23.6	80	31	582	22.7	59	31	596	23.2	78	23	590	23.3	76	31	558	18.7	58	31	616	23.4	72
900	29	973	24.6	33	31	1,046	21.3	72	31	1,048	19.9	61	31	1,067	20.5	74	23	1,056	21.0	70	31	1,019	16.2	58	31	1,081	20.8	66
850	29	1,471	21.7	30	31	1,539	18.6	65	31	1,539	16.5	62	31	1,560	17.5	68	23	1,549	17.9	69	31	1,502	12.8	62	31	1,574	17.8	63
800	29	1,992	17.4	34	31	2,058	15.7	60	31	2,053	13.8	53	31	2,076	14.5	64	23	2,066	15.0	66	31	2,008	9.5	61	31	2,090	14.6	61
750	29	2,543	12.8	38	30	2,607	12.5	58	31	2,602	11.4	44	31	2,619	11.5	60	23	2,615	11.9	62	31	2,549	6.9	54	31	2,645	11.4	59
700	29	3,114	8.1	43	30	3,180	9.2	57	31	3,168	8.1	41	31	3,193	8.2	57	23	3,184	8.4	56	31	3,106	4.1	44	31	3,207	7.9	58
650	29	3,725	3.2	48	30	3,797	5.4	55	31	3,783	4.4	40	31	3,806	4.6	56	23	3,803	4.9	51	31	3,711	1.0	41	31	3,823	4.4	50
600	28	4,362	- 1.6	48	30	4,441	1.6	52	31	4,423	.7	37	31	4,450	.9	53	23	4,441	.9	52	31	4,345	- 2.2	38	31	4,463	.8	48
550	28	5,053	- 6.5	43	30	5,139	- 2.2	48	30	5,122	- 3.2	28	31	5,145	- 3.1	50	23	5,140	- 3.2	48	31	5,034	- 6.4	36	31	5,166	- 3.2	46
500	28	5,787	-11.6	38	30	5,889	- 6.3	44	29	5,867	- 7.6		31	5,894	- 7.5	48	23	5,882	- 7.9	46	31	5,769	-11.0	37	31	5,906	- 7.2	43
450	28	6,596	-17.1		30	6,716	-11.1	38	29	6,687	-12.8		31	6,715	-12.7	48	23	6,703	-13.1	46	31	6,576	-16.4	38	31	6,735	-12.1	44
400	28	7,459	-23.1		30	7,601	-16.8	32	29	7,568	-19.0		31	7,596	-18.2	41	23	7,583	-18.9	42	31	7,446	-22.2	40	31	7,612	-18.0	39
350	28	8,423	-30.0		30	8,590	-24.0		29	8,547	-26.4		31	8,580	-25.3	36	23	8,564	-25.8	42	30	8,414	-29.0		31	8,596	-25.2	38
300	28	9,502	-37.9		30	9,696	-32.3		29	9,641	-34.8		31	9,680	-33.9	36	23	9,663	-34.2		30	9,497	-37.2		31	9,696	-33.7	36
250	28	10,735	-46.1		30	10,955	-42.4		27	10,882	-44.6		31	10,931	-43.9		23	10,914	-44.1		30	10,731	-46.3		31	10,948	-43.7	
200	28	12,198	-51.1		29	12,423	-54.5		26	12,335	-55.4		31	12,391	-55.8		21	12,373	-56.1		29	12,190	-54.3		31	12,409	-55.5	
175	28	13,062	-53.1		27	13,264	-60.9		26	13,175	-60.5		30	13,229	-61.7		20	13,208	-62.4		28	13,029	-57.7		31	13,248	-61.6	
150	28	14,049	-55.5		25	14,207	-67.1		26	14,124	-64.6		29	14,168	-67.0		18	14,145	-68.2		26	13,988	-59.7		31	14,190	-66.8	
125	27	15,198	-57.4		21	15,290	-71.2		25	15,227	-66.0		28	15,258	-69.4		8	15,229	-70.8		24	15,123	-60.1		29	15,283	-69.2	
100	26	16,600	-57.6		16	16,604	-70.8		23	16,590	-63.8		25	16,593	-68.0						24	16,513	-59.8		23	16,622	-66.8	
80	23	18,009	-57.5		14	17,940	-68.0		21	17,957	-61.9		22	17,942	-65.3						22	17,915	-58.5		23	17,979	-64.0	
60	23	19,835	-55.6		13	19,690	-62.4		17	19,758	-57.9		21	19,702	-62.3						21	19,735	-55.7		23	19,759	-60.4	
50	23	20,998	-54.2		12	20,821	-59.8		15	20,908	-56.5		21	20,836	-59.2						20	20,902	-53.6		20	20,903	-58.5	
40	22	22,431	-52.4		12	22,226	-56.6		12	22,320	-54.3		21	22,243	-56.2						17	22,342	-51.7		16	22,316	-55.4	
30	20	24,300	-50.1		7	24,074	-51.7		10	24,191	-50.2		16	24,081	-52.3						12	24,217	-49.7		11	24,163	-51.9	
20	6	26,983	-46.7						7	26,868	-46.8		13	26,729	-48.9													
15													6	28,622	-47.8													

Standard pressure surface (mb)	COLUMBIA, MO. (987 MB.)				DODGE CITY, KANS. (923 MB.)				EL PASO, TEX. (880 MB.)				ELY, NEV. (808 MB.)				FAIRBANKS, ALASKA (994 MB.)				FORT HUACHUCA, ARIZ. (856 MB.)				GLASGOW, MONT. (936 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	238	26.0	76	31	792	26.9	52	31	1,195	27.2	48	31	1,908	21.8	32	31	135	21.3	49	31	1,428	25.2	48	31	648	22.7	55
1,000	31	120			31	74			31	44			31	5			31	86			31	39			31	65		
950	31	580	26.7	65	31	536			31	509			31	470			31	526	17.4	52	31	503			31	521		
900	31	1,052	23.5	67	31	1,015	26.6	48	31	994			31	955			31	986	13.2	57	31	985			31	991	21.5	51
850	31	1,550	20.0	68	31	1,518	23.6	50	31	1,500	25.8	42	31	1,460			31	1,463	9.0	61	31	1,489	24.9	47	31	1,484	18.0	53
800	31	2,071	16.6	65	31	2,045	19.6	53	31	2,031	21.9	43	31	1,992	22.6	29	31	1,963	5.5	62	31	2,018	21.4	48	31	2,000	14.6	56
750	31	2,622	13.0	61	31	2,600	15.5	54	31	2,591	17.4	49	31	2,550	18.9	30	31	2,492	2.0	61	31	2,577	17.1	53	31	2,546	11.2	56
700	31	3,195	9.4	56	31	3,179	11.1	54	31	3,172	12.8	55	31	3,136	14.2	33	31	3,041	- 1.0	59	31	3,157	12.5	59	31	3,114	7.3	50
650	30	3,813	5.9	49	31	3,800	6.9	52	31	3,795	8.0	59	31	3,754	8.6	39	31	3,629	- 4.5	55	31	3,777	7.7	63	31	3,723	3.2	47
600	30	4,459	2.1	46	31	4,446	2.6	49	31	4,445	3.1	63	31	4,411	2.7	46	31	4,254	- 8.4	51	30	4,429	2.9	69	30	4,366	- .9	46
550	30	5,155	- 2.2	42	31	5,148	- 1.9	44	31	5,145	- 1.7	62	31	5,103	- 3.1	49	31	4,924	-12.6	44	30	5,125	- 1.8	70	30	5,056	- 5.5	44
500	29	5,907	- 6.6	37	31	5,896	- 6.7	41	31	5,899	- 6.3	57	31	5,855	- 8.5	47	30	5,642	-17.7	38	29	5,880	- 6.3	61	30	5,796	-10.3	45
450	29	6,734	-11.7	36	31	6,725	-11.8		31	6,725	-10.9	52	31	6,675	-14.1	45	30	6,427	-23.3	37	29	6,702	-10.9	49	29	6,611	-15.7	38
400	29	7,615	-17.8		31	7,603	-17.8		31	7,614	-16.5	44	31	7,549	-19.9	34	29	7,277	-29.7	37	27	7,592	-17.0		29	7,479	-21.7	40
350	29	8,600	-24.9		31	8,588	-24.9		30	8,602	-23.6	40	31	8,527	-26.4		29	8,213	-36.9		27	8,580	-24.0		29	8,447	-29.0	39
300	29	9,701	-33.4		31	9,690	-33.1		29	9,709	-31.8	38	31	9,622	-34.6		29	9,259	-45.2		25	9,684	-32.5		29	9,531	-37.0	
250	29	10,955	-43.2		31	10,945	-42.7		29	10,971	-41.5		31	10,870	-44.0		28	10,457	-52.2		25	10,942	-42.2		28	10,764	-45.6	
200	29	12,421	-54.3		31	12,414	-53.4		28	12,447	-53.5		30	12,331	-53.6		28	11,899	-50.4		21	12,411	-54.3		27	12,220	-52.1	
175	29	13,265	-59.5		31	13,261	-58.8		28	13,292	-59.9		30	13,182	-57.4		28	12,772	-48.6		20	13,252	-60.7		27	13,078	-54.3	
150	28	14,218	-64.0		31	14,216	-64.0		27	14,240	-66.2		30	14,146	-61.3		28	13,785	-48.2		14	14,196	-66.5		27	14,058	-57.3	
125	26	15,322	-67.5		31	15,321	-67.4		23	15,331	-70.2		29	15,268	-63.0		28	14,982	-48.6		6	15,283	-69.3		25	15,201	-58.8	
100	24	16,665	-66.7		29	16,659	-67.7		19	16,653	-69.8		28	16,633	-62.6		28	16,447	-48.6						24	16,598	-58.4	
80	23	18,020	-63.9		27	18,015	-63.8		15	17,994	-64.9		26	18,017	-60.2		28	17,913	-48.2						22	18,004	-57.6	
60	20	19,797	-60.1		23	19,791	-59.5		13	19,764	-60.8		23	19,821	-57.4		27	19,806	-47.8						19	19,834	-55.4	
50	19	20,941	-57.0		22	20,934	-57.6		13	20,903	-57.9		22	20,975	-55.6		26	21,010	-47.3						18	20,995	-54.1	
40	18	22,361	-54.6		21	22,349	-54.7		13	22,320	-54.7		20	22,401	-53.6		26	22,485	-46.5						18	22,433	-51.5	
30	17	24,217	-51.1		16	24,202	-51.2		13	24,173	-51.5		12	24,254	-50.6		20	24,385	-46.0						15	24,307	-48.5	
20	7	26,886	-47.6						6	26,813	-46.4														9	26,991	-45.4	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

JULY 1955

Standard pressure surface (mb)	GRAND JUNCTION, COLO. (849 MB.)				GREAT FALLS, MONT. (886 MB.)				GREEN BAY, WIS. (990 MB.)				GREENSBORO, N. C. (986 MB.)				HATTERAS, N. C. (1017 MB.)				HILO, T. H. (1015 MB.)				INTERNAT. FALLS, MINN. (971 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,474	27.5	25	31	1,123	19.4	62	31	210	22.4	80	31	273	23.6	85	31	3	25.9	86	31	9	24.8	71	30	360	20.3	79
1,000--	31	4			31	64			31	121			31	152			31	154	25.1	85	31	145	22.9	72	30	102		
950----	31	465			31	519			31	575	23.1	67	31	608	24.4	71	31	605	22.8	76	31	593	19.1	79	30	549	21.1	66
900----	31	952			31	989			31	1,042	20.7	65	31	1,076	21.5	72	31	1,075	20.4	68	31	1,054	15.7	83	30	1,015	18.9	64
850----	31	1,464			31	1,480	18.5	53	31	1,535	17.7	63	31	1,570	18.1	73	31	1,567	17.3	67	31	1,537	12.5	82	30	1,504	15.8	67
800----	31	1,999	25.7	24	31	1,998	15.2	53	31	2,052	14.8	60	31	2,087	14.6	75	31	2,083	14.3	65	31	2,045	10.6	70	29	2,022	13.5	58
750----	31	2,568	20.9	26	31	2,546	11.2	55	31	2,598	11.8	58	31	2,637	11.2	74	31	2,630	11.4	55	31	2,592	9.0	53	29	2,567	11.1	51
700----	31	3,153	15.8	30	31	3,114	7.1	56	31	3,170	8.5	52	31	3,205	8.0	69	31	3,199	8.5	48	31	3,152	7.0	43	29	3,136	7.8	51
650----	31	3,782	10.2	37	31	3,723	2.6	59	31	3,783	4.8	47	31	3,821	4.8	55	31	3,814	5.2	43	31	3,767	5.0		29	3,750	4.4	48
600----	31	4,435	4.2	46	31	4,362	- 1.8	60	30	4,425	.8	42	31	4,463	1.6	50	31	4,457	1.6	43	31	4,410	2.4		29	4,391	.3	43
550----	31	5,135	- 1.7	52	31	5,051	- 6.6	53	30	5,122	- 3.3	35	31	5,165	- 2.0	44	31	5,158	- 2.0		31	5,106	- .9		29	5,082	- 4.1	39
500----	31	5,887	- 7.8	53	30	5,788	-11.7	47	30	5,866	- 7.9	35	31	5,911	- 6.2	39	31	5,905	- 6.6	36	31	5,863	- 5.2		28	5,830	- 8.7	37
450----	30	6,710	-13.2	42	30	6,597	-17.1	44	30	6,689	-13.0	36	31	6,740	-11.3	37	31	6,733	-11.8		31	6,689	-11.0		27	6,644	-14.1	
400----	30	7,588	-19.2		30	7,461	-23.2	42	30	7,565	-19.0		31	7,622	-17.4	34	31	7,612	-18.0		31	7,576	-17.8		27	7,518	-20.1	
350----	29	8,565	-26.4		30	8,424	-30.2	41	30	8,545	-25.9		31	8,607	-24.6	34	31	8,595	-25.2		31	8,559	-26.0		27	8,493	-27.5	
300----	29	9,661	-34.5		30	9,502	-37.9		30	9,642	-34.0		31	9,709	-33.4	35	31	9,694	-33.7		30	9,652	-35.4		27	9,584	-35.2	
250----	29	10,909	-43.9		30	10,734	-46.3		30	10,893	-43.2		31	10,962	-43.3		31	10,945	-43.4		30	10,894	-45.6		27	10,831	-43.6	
200----	29	12,374	-53.8		30	12,193	-52.3		30	12,364	-52.8		31	12,425	-54.9		31	12,407	-54.9		30	12,343	-57.1		26	12,302	-52.3	
175----	29	13,222	-58.5		30	13,052	-54.4		30	13,215	-58.0		31	13,266	-60.9		31	13,248	-60.7		30	13,177	-62.4		26	13,154	-57.2	
150----	29	14,180	-62.8		30	14,033	-56.3		30	14,173	-62.9		31	14,211	-66.0		30	14,192	-65.7		30	14,116	-67.5		24	14,124	-59.8	
125----	28	15,292	-65.6		30	15,186	-57.5		29	15,288	-65.6		30	15,313	-67.5		28	15,291	-67.5		26	15,203	-71.8		24	15,255	-61.7	
100----	27	16,647	-65.4		30	16,588	-58.8		27	16,645	-64.6		30	16,657	-66.3		26	16,637	-66.2		25	16,514	-71.7		20	16,647	-60.8	
80-----	25	18,010	-62.4		28	17,989	-57.4		26	18,018	-61.5		30	18,019	-63.1		24	18,001	-63.1		24	17,835	-69.1		17	18,036	-59.1	
60-----	22	19,797	-58.8		26	19,810	-55.7		23	19,817	-58.0		26	19,805	-59.2		22	19,788	-59.4		22	19,578	-63.9		15	19,850	-56.6	
50-----	22	20,946	-56.8		23	20,974	-54.7		21	20,972	-56.1		26	20,951	-57.3		20	20,937	-57.4		21	20,703	-61.0		15	21,011	-54.4	
40-----	20	22,370	-54.2		18	22,409	-52.0		20	22,396	-53.0		24	22,365	-54.9		19	22,353	-54.5		20	22,095	-58.4		15	22,447	-52.1	
30-----	20	24,228	-50.9		16	24,281	-49.1		19	24,266	-50.0		22	24,218	-51.8		16	24,201	-51.6		13	23,925	-54.0		10	24,327	-49.0	
20-----	11	26,880	-47.8		10	26,980	-45.3		5	26,935	-46.8		10	26,867	-48.7		7	26,857	-47.2									

Standard pressure surface (mb)	KOTZEBUE, ALASKA (1011 MB.)				LAKE CHARLES, LA. (1015 MB.)				LANDER, WYO. (828 MB.)				LAS VEGAS, NEV. (931 MB.)				LITTLE ROCK, ARK. (1005 MB.)				MAZATLAN, MEXICO (1007 MB.)				MC GRATH, ALASKA (999 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	5	13.2	75	31	5	25.7	88	31	1,696	22.8	35	31	660	33.4	19	30	79	27.1	78	31	14	28.2	74	31	103	18.4	57
1,000--	31	95	12.6	72	31	138	26.0	82	31	12			31	5			30	127	27.3	75	31	74	27.6	75	31	93		
950----	31	529	11.3	68	31	594	24.0	76	31	476			31	475			30	584	25.5	70	31	533	24.3	79	31	529	14.5	60
900----	31	975	8.4	70	31	1,062	21.2	72	31	957			31	963	31.9	22	30	1,056	22.1	74	31	1,002	22.3	77	31	982	10.5	66
850----	31	1,445	5.5	72	31	1,556	18.3	70	31	1,466			31	1,472	27.7	24	30	1,551	18.6	75	31	1,499	20.0	75	31	1,455	6.7	71
800----	31	1,939	3.2	69	31	2,073	15.3	66	31	1,998	22.9	25	31	2,004	23.0	29	30	2,070	15.5	68	31	2,021	17.2	73	31	1,949	3.1	73
750----	31	2,469	.3	64	31	2,619	12.2	62	31	2,559	18.4	26	31	2,562	17.9	33	30	2,621	12.4	62	31	2,579	13.9	76	31	2,471	.1	69
700----	31	3,011	- 2.3	59	31	3,194	8.9	60	31	3,141	13.2	30	31	3,146	12.8	38	30	3,192	9.0	60	31	3,150	10.5	79	31	3,019	- 2.8	67
650----	31	3,603	- 5.8	56	31	3,807	5.2	58	31	3,759	8.0	35	31	3,761	7.9	38	29	3,810	5.3	59	31	3,772	6.6	80	31	3,605	- 5.7	60
600----	31	4,219	- 9.4	56	30	4,454	1.3	58	31	4,412	2.6	40	31	4,419	3.4	37	29	4,453	1.6	55	31	4,418	2.4	81	31	4,226	- 9.2	57
550----	31	4,889	-13.6	51	30	5,154	- 2.7	56	31	5,106	- 3.1	44	31	5,121	- 1.3		29	5,155	- 2.2	47	31	5,117	- 1.8	80	31	4,894	-13.3	51
500----	31	5,604	-18.4	48	30	5,899	- 7.0	55	31	5,855	- 9.0	44	31	5,873	- 6.3	33	29	5,901	- 6.6	42	29	5,870	- 6.3	76	31	5,613	-18.0	48
450----	31	6,390	-23.9	48	30	6,725	-11.8	51	31	6,669	-14.6	36	31	6,699	-12.0		29	6,730	-11.6	35	29	6,697	-10.9	66	31	6,396	-23.4	45
400----	31	7,231	-30.0	45	30	7,608	-17.5	51	31	7,545	-20.9		31	7,580	-18.5		29	7,610	-17.5	35	29	7,585	-16.4	63	30	7,248	-29.3	46
350----	31	8,167	-36.8	41	29	8,594	-24.5	46	31	8,517	-27.8		31	8,562	-25.8		29	8,597	-24.2		29	8,575	-23.5	64	29	8,188	-36.5	43
300----	31	9,214	-44.5		27	9,698	-32.7	49	31	9,605	-35.9		30	9,655	-34.4		29	9,702	-32.5	36	28	9,686	-31.8	65	29	9,236	-44.5	
250----	31	10,411	-51.3		27	10,956	-42.4		30	10,841	-45.4		30	10,902	-44.0		29	10,960	-42.5		27	10,947	-41.7		28	10,441	-51.0	
200----	31	11,861	-49.4		26	12,424	-54.1		30	12,297	-54.3		30	12,365	-54.3		29	12,429	-54.2		26	12,421	-54.2		28	11,891	-49.7	
175----	31	12,739	-47.1		26	13,267	-60.6		30	13,146	-57.4		30	13,210	-59.3		29	13,273	-60.2		21	13,266	-61.2		27	12,760	-47.6	
150----	31	13,757	-47.1		24	14,211	-66.3		30	14,110	-60.8		30	14,162	-64.4		28	14,220	-65.7		14	14,217	-68.6		27	13,777	-48.0	
125----	31	14,960	-47.8		23	15,305	-69.2		30	15,237	-63.0		28	15,265	-66.6		23	15,319	-69.2		6	15,291	-74.3		27	14,974	-48.8	
100----	31	16,432	-47.4		18	16,630	-68.1		29	16,609	-62.8		28	16,614	-66.0		18	16,657	-68.5						27	16,437	-49.0	
80-----	31	17,905	-47.1		18	17,979	-64.8		24	17,977	-59.8		26	17,976	-62.7		14	17,997	-65.2						27	17,901	-48.6	
60-----	31	19,808	-46.5		14	19,751	-61.0		22	19,782	-57.4		25	19,754	-59.4		13	19,774	-60.5						26	19,794	-48.2	
50-----	30	21,017	-46.0		14	20,891	-58.1		20	20,943	-55.9		25	20,900	-57.4		12	20,916	-58.2						26	20,993	-47.9	
40-----	30	22,499	-45.7		9	22,306	-55.7		18	22,371	-52.7		22	22,318	-54.5		11	22,331	-55.1						26	22,465	-46.8	
30-----	24	24,411	-45.0		8	24,155	-52.4		16	24,246	-50.7		17	24,169	-51.6		8	24,186	-52.0						22	24,378	-46.0	
20-----													9	26,831	-48.0										7	27,082	-44.8	

Standard pressure surface (mb)	MEDFORD, ORE. (966 MB.)				MIAMI, FLA. (1017 MB.)				MIDLAND, TEXAS (915 MB.)				NANTUCKET, MASS. (1015 MB.)				NASHVILLE, TENN. (996 MB.)				NOME, ALASKA (1010 MB.)				NORTH PLATTE, NEBR. (915 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	401	24.0	36	31	4	26.4	82	31	871	26.9	52	31	14	18.8	94	31	177	26.3	76	29	7	11.1	83	31	848	26.2	51
1,000--	31	97			31	154	26.1	78	31	73			31	140	20.5	86	31	143			29	92	10.4	81	31	50		
950----	31	551	22.7	38	31	601	23.1	77	31	537			31	589	21.2	68	31	597	25.2	67	29	522	8.3	78	31	512		
900----	31	1,015	18.7	46	31	1,075	20.2	74	31	1,016	26.6	50	31	1,053	18.9	63	31	1,071	22.0	70	29	963	6.2	77	31	991	27.6	42
850----	31	1,502	14.5	54	31	1,567	17.1	71	31	1,518	22.8	54	31	1,542	15.7	66	31	1,566	18.4	73	29	1,430	4.2	76	31	1,496	24.6	42
800----	31	2,010	10.3	61	31	2,082	14.1	65	31	2,044	18.6	60	31	2,055	12.9	56	31	2,084	15.0	72	29	1,922	2.1	73	31	2,024	20.6	47
750----	31	2,550	6.9	60	31	2,617	10.9	60	31	2,598	14.7	61	31	2,601	10.3	48	31	2,634	12.1	64	29	2,449	.0	68	31	2,580	16.5	50
700----	31	3,108	4.0	45	31	3,197	7.5	59	31	3,175	10.8	61	31	3,167	7.3	43	31	3,204	8.7	61	29	2,991	- 2.4	65	31	3,162	12.1	50
650----	31	3,714	.5	38	31	3,801	3.8	58	31	3,792	6.6	60	31	3,780	3.9	42	31	3,818	5.1	58	28	3,581	- 5.7	59	31	3,782	7.4	50
600----	31	4,346	- 3.1	30	31	4,450	.2	54	31	4,443	2.7	55	31	4,420	.4	38	31	4,463	1.4	54	28	4,198	- 9.7	57	30	4,432	2.8	47
550----	31	5,032	- 7.3		31	5,135	- 3.9	53	29	5,140	- 1.7	48	31	5,115	- 3.5	35	31	5,164	- 1.9	46	28	4,871	-13.6	50	30	5,132	- 2.1	41
500----	31	5,764	-12.3		31	5,889	- 8.3	53	29	5,894	- 6.0	42	31	5,860	- 8.1	34	31	5,913	- 6.2	40	28	5,583	-18.2	45	30	5,880	- 7.4	40
450----	31	6,574	-17.9		31	6,702	-13.1	48	29	6,720	-10.9		31	6,683	-13.2		30	6,742	-11.0	33	28	6,370	-23.2	42	30	6,701	-12.9	33
400----	31	7,431	-24.1		31	7,589	-18.9	41	29	7,607	-16.9		31	7,558	-19.5		30	7,625	-17.3	32	28	7,214	-29.0	39	29	7,577	-19.4	
350----	31	8,391	-31.5		31	8,569	-26.0	38	29	8,595	-24.0		31	8,536	-26.5		30	8,612	-24.1	33	28	8,154	-36.1		27	8,554	-26.3	
300----	31	9,465	-39.4		30	9,665	-34.3	36	29	9,700	-32.4		31	9,630	-35.0		30	9,718	-32.4		28	9,206	-43.6		27	9,650	-34.2	
250----	31	10,693	-46.6		30	10,912	-44.4		29	10,958	-42.4		31	10,876	-44.4		30	10,977	-42.3		28	10,410	-50.0		25	10,907	-43.1	
200----	31	12,154	-51.8		30	12,367	-56.5		27	12,429	-54.0		31	12,334	-55.0		30	12,448	-53.8		28	11,871	-47.5		24	12,371	-53.7	
175----	31	13,015	-54.0		29	13,201	-62.7		27	13,273	-60.1		31	13,177	-59.9		30	13,295	-59.5		28	12,754	-46.4		24	13,218	-58.8	
150----	31	13,999	-56.3		27	14,140	-67.6		27	14,220	-65.7		31	14,130	-63.7		30	14,246	-64.9		28	13,776	-46.8		24	14,173	-63.5	
125----	31	15,151	-57.7		26	15,230	-68.8		26	15,312	-70.3		31	15,243	-64.4		28	15,347	-67.7		28	14,981	-47.5		22	15,276	-66.4	
100----	31	16,555	-58.3		25	16,565	-68.0		23	16,634	-70.0		31	16,608	-63.6		25	16,689	-66.0		28	16,453	-47.5		22	16,625	-65.7	
80-----	31	17,961	-58.1		21	17,911	-67.1		22	17,975	-65.7		30	17,982	-61.0		21	18,051	-63.3		28	17,925	-47.5		22	17,991	-62.6	
60-----	31	19,777	-56.7		19	19,657	-63.7		20	19,740	-61.4		30	19,785	-57.4		20	19,833	-59.5		27	19,827	-47.1		21	19,782	-59.1	
50-----	31	20,934	-55.6		16	20,785	-60.6		20	20,877	-58.7		30	20,941	-55.5		19	20,977	-57.3		26	21,030	-46.6		19	20,926	-56.7	
40-----	28	22,361	-53.6		15	22,187	-57.1		19	22,285	-56.1		28	22,372	-53.2		18	22,395	-54.5		23	22,507	-46.1		18	22,349	-54.0	
30-----	22	24,218	-51.4		9	24,021	-53.0		18	24,133	-51.8		28	24,233	-50.5		14	24,246	-51.3		15	24,430	-45.3		10	24,224	-50.6	
20-----									13	26,778	-48.2		15	26,882	-46.8		8	26,891	-47.5									
15-----													6	28,782	-45.3													

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb)	OAKLAND, CALIF. (1012 MB.)				OKLAHOMA CITY, OKLA. (969 MB.)				OMAHA, NEBR. (965 MB.)				PHOENIX, ARIZ. (968 MB.)				PITTSBURGH, PA. (976 MB.)				PORTLAND, ME. (1013 MB.)				RAPID CITY, S. DAK. (902 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
RFACE	31	6	15.3	75	31	391	27.5	59	31	403	26.1	67	31	341	32.6	38	31	353	23.8	70	31	20	19.2	87	30	966	24.2	50
000--	31	110	14.5	74	31	105			31	89			31	46			31	142			31	129	21.4	75	30	43		
0----	31	558	18.4	51	31	563	28.4	52	31	546	26.9	61	31	512	32.6	33	31	593	23.8	65	31	582	21.8	61	30	502		
0----	31	1,011	19.3	31	31	1,042	25.1	55	31	1,022	24.6	60	31	995	29.5	32	31	1,065	20.8	67	31	1,043	18.7	63	30	984		
0----	31	1,501	17.4	28	31	1,542	21.4	59	31	1,521	21.1	62	31	1,501	25.5	35	31	1,558	17.4	70	31	1,531	15.3	61	30	1,485	23.6	45
0----	31	2,016	14.9	25	31	2,064	17.6	63	31	2,044	17.6	64	31	2,030	21.2	40	31	2,073	14.2	66	31	2,042	12.1	59	30	2,011	20.0	47
0----	31	2,564	11.9		31	2,619	13.8	61	31	2,598	13.9	63	31	2,589	16.8	44	31	2,622	11.3	54	31	2,590	9.3	54	30	2,568	16.0	46
0----	31	3,132	8.7	23	31	3,191	10.3	53	31	3,172	10.0	60	31	3,168	12.6	45	31	3,190	8.4	44	31	3,150	6.7	44	30	3,146	11.5	47
0----	31	3,749	5.0		31	3,809	6.3	48	31	3,791	6.4	51	31	3,792	8.2	48	31	3,802	5.0	43	31	3,760	3.3	42	30	3,766	6.6	47
0----	31	4,389	.8		31	4,455	2.4	41	30	4,440	2.4	43	31	4,442	3.8	50	31	4,448	1.4	41	31	4,400	- .4	41	30	4,412	1.5	47
0----	31	5,083	- 3.8		31	5,156	- 1.8	39	30	5,139	- 2.2	38	31	5,146	.7	48	31	5,145	2.7	36	30	5,091	- 4.4	37	30	5,106	- 3.7	48
0----	31	5,828	- 9.0		31	5,905	- 6.0	34	30	5,889	- 7.0	34	31	5,899	- 5.6	46	31	5,893	- 7.2	35	30	5,835	- 9.1	38	30	5,853	- 8.9	43
0----	31	6,647	-15.0		31	6,735	-11.0	33	30	6,712	-12.5		31	6,727	-10.7	43	31	6,716	-12.2		30	6,652	-14.3	33	30	6,668	-14.4	40
0----	31	7,514	-21.4		31	7,616	-17.2		30	7,591	-18.6		31	7,614	-16.8	35	31	7,597	-18.4		30	7,527	-20.3	33	30	7,543	-20.7	
0----	31	8,484	-28.6		31	8,602	-24.0		30	8,573	-25.8		31	8,602	-23.8		31	8,579	-25.5	35	30	8,501	-27.3		30	8,515	-28.0	
0----	31	9,570	-36.9		31	9,706	-32.6		30	9,670	-34.3		31	9,708	-32.2		31	9,678	-33.9		30	9,592	-35.7		30	9,602	-36.0	
50----	31	10,807	-45.6		31	10,962	-42.6		30	10,921	-43.3		31	10,968	-41.8		31	10,928	-43.9		30	10,832	-45.4		30	10,843	-45.2	
0----	31	12,266	-53.5		31	12,432	-53.6		29	12,384	-53.9		31	12,443	-53.2		29	12,393	-55.2		30	12,288	-54.9		30	12,301	-54.3	
75--	31	13,117	-57.5		31	13,278	-59.2		29	13,231	-59.1		31	13,291	-59.1		27	13,239	-60.7		30	13,131	-59.5		30	13,147	-58.9	
50----	31	14,081	-61.1		31	14,230	-64.4		29	14,186	-63.8		31	14,241	-65.3		26	14,185	-65.4		30	14,086	-62.7		29	14,100	-62.3	
25----	31	15,205	-63.5		30	15,330	-68.3		29	15,292	-67.4		29	15,339	-69.3		22	15,279	-67.7		29	15,209	-63.1		27	15,219	-63.6	
0----	31	16,574	-63.0		27	16,668	-68.1		27	16,637	-66.7		25	16,663	-67.1		19	16,622	-65.1		24	16,597	-62.5		26	16,581	-64.4	
----	31	17,952	-61.1		27	18,017	-64.7		25	17,997	-62.7		25	18,019	-64.0		15	17,985	-63.1		24	17,978	-60.8		25	17,955	-61.0	
0-----	30	19,748	-58.1		26	19,792	-59.8		24	19,782	-59.5		21	19,794	-60.2		13	19,774	-59.6		21	19,785	-57.1		20	19,758	-58.4	
0-----	30	20,900	-56.6		24	20,932	-57.6		23	20,929	-56.9		21	20,937	-57.7		11	20,923	-57.6		18	20,936	-54.8		19	20,904	-57.1	
0-----	30	22,321	-54.3		24	22,348	-55.2		20	22,355	-53.8		19	22,353	-54.6		9	22,347	-54.5		17	22,368	-52.6		17	22,328	-53.9	
0-----	29	24,178	-51.4		23	24,201	-51.4		18	24,222	-50.6		12	24,218	-51.1		8	24,195	-51.6		14	24,226	-50.1		12	24,187	-51.2	
0-----	20	26,832	-46.9		15	26,862	-48.6		6	26,860	-46.7										6	26,878	-47.3		6	26,847	-46.2	
5-----	11	28,747	-44.6		5	28,742	-45.9														5	28,813	-44.7					
0-----	8	31,473	-41.6																									

	ST. CLOUD, MINN. (976 MB.)				ST. PAUL, ALASKA (1009 MB.)				SAN ANTONIO, TEX. (986 MB.)				SAN JUAN, P. R. (1015 MB.)				SANTA MARIA, CALIF. (1004 MB.)				S. STE. MARIE, MICH. (990 MB.)				SPOKANE, WASH. (929 MB.)			
URFACE	31	316	23.4	76	31	10	7.6	94	31	243	28.8	57	31	19	25.4	85	31	74	12.8	82	31	221	19.0	80	31	722	21.7	45
,000--	31	100			31	85	7.5	92	31	113			31	153	25.8	78	31	108	12.5	82	31	133			31	74		
50----	31	556	24.2	68	31	515	6.7	88	31	574	26.5	62	31	602	22.8	78	31	551	16.2	67	31	584	21.1	61	31	529		
00----	31	1,025	21.6	70	31	951	6.2	83	31	1,046	23.0	69	31	1,074	19.8	76	31	1,006	21.3	26	31	1,046	19.4	57	31	993	19.5	45
50----	31	1,520	18.7	70	31	1,419	5.3	76	31	1,543	19.6	70	31	1,565	17.0	71	31	1,499	20.1	25	31	1,536	16.4	59	31	1,482	15.6	50
00----	31	2,038	15.7	64	31	1,913	3.6	70	31	2,063	16.2	71	31	2,081	14.5	60	31	2,018	17.1	27	31	2,050	13.8	57	31	1,992	11.3	57
50----	31	2,587	12.9	57	31	2,445	1.6	64	31	2,609	12.8	70	31	2,627	11.9	49	31	2,576	13.8	25	31	2,595	11.2	51	31	2,533	7.1	63
00----	31	3,161	9.5	51	31	2,989	- 1.0	60	31	3,187	9.5	62	31	3.200	8.6	41	31	3,143	10.7	22	31	3,164	8.1	45	31	3.091	3.3	60
50----	31	3,771	5.6	47	31	3,589	- 4.0	58	31	3,801	5.8	59	31	3,813	4.9	39	31	3,764	7.2		31	3,777	4.8	40	31	3,695	- .4	59
00----	31	4,422	1.5	43	31	4.205	- 7.6	54	31	4,451	2.3	52	31	4,457	1.2	38	31	4,409	3.2		31	4,421	.9	42	31	4,324	- 4.3	56
50----	31	5,117	- 3.2	46	31	4,884	-11.8	51	31	5,149	- 1.6	50	31	5,151	- 2.7	34	31	5,110	- 1.4		31	5,114	- 3.4	39	31	5,007	- 8.7	51
00----	31	5,865	- 8.1	38	31	5,600	-16.2	43	30	5,902	- 6.1	45	31	5,902	- 7.0	30	31	5,862	- 6.2		31	5,863	- 7.5	32	31	5,736	-13.5	43
50----	31	6,685	-13.1	38	31	6,403	-21.1	44	30	6,732	-11.0	40	31	6,722	-12.2		31	6,689	-11.8		30	6,681	-13.0	29	31	6,536	-19.3	41
00----	31	7,563	-18.9	33	31	7,246	-26.9	42	30	7,616	-16.7	37	31	7,606	-18.3		30	7,569	-18.4		30	7,562	-19.2		31	7,394	-25.5	38
50----	31	8,544	-25.8		31	8,195	-34.1	44	29	8,605	-23.7	33	31	8,588	-26.0		30	8,550	-25.7		30	8,541	-26.5		31	8,347	-32.6	
00----	31	9,642	-33.8		31	9,256	-41.7		29	9,712	-32.2		31	9,682	-34.9		30	9,648	-34.1		30	9,636	-34.9		31	9,413	-40.2	
250----	31	10,897	-42.6		31	10,472	-47.6		28	10,968	-42.6		31	10,926	-45.4		30	10,898	-43.6		29	10,878	-43.9		31	10,637	-46.4	
200----	31	12,369	-52.9		31	11,939	-48.7		28	12,436	-54.4		31	12,375	-57.3		30	12,364	-53.6		27	12,349	-53.2		31	12,103	-50.2	
175----	31	13,220	-57.9		31	12,816	-48.3		28	13,278	-60.6		31	13,206	-63.5		30	13,213	-58.4		25	13,199	-57.9		31	12,970	-51.9	
150----	31	14,183	-61.6		31	13,829	-48.7		28	14,222	-66.8		31	14,139	-68.5		30	14,170	-63.1		25	14,161	-61.6		31	13,962	-54.3	
125----	31	15,304	-64.1		31	15,023	-49.8		25	15,311	-70.6		30	15,220	-71.8		29	15,281	-66.5		17	15,304	-63.1		31	15,126	-55.0	
100----	29	16,672	-63.2		31	16,481	-50.1		22	16,629	-70.6		28	16,525	-73.4		27	16,627	-64.8		13	16,678	-62.2		31	16,545	-55.9	
80-----	27	18,049	-61.2		31	17,938	-49.7		21	17,962	-66.6		27	17,837	-70.0		22	17,995	-62.5		7	18,040	-59.9		31	17,963	-56.0	
60-----	25	19,856	-58.3		30	19,816	-49.3		20	19,721	-61.6		26	19,575	-63.4		20	19,781	-58.7		5	19,845	-57.0		31	19,793	-55.0	
50-----	22	21,014	-56.1		30	21,011	-48.9		19	20,860	-58.7		26	20,702	-60.6		19	20,930	-56.8						25	20,961	-53.5	
40-----	20	22,443	-53.2		30	22,478	-48.1		19	22,269	-55.8		26	22,099	-57.7		19	22,351	-54.1						23	22,399	-51.1	
30-----	17	24,307	-50.8		26	24,375	-46.7		14	24,111	-52.3		21	23,930	-54.3		14	24,207	-51.1						17	24,289	-48.3	
20-----	8	26,952	-47.4		9	27,069	-44.6		5	26,801	-47.5		12	26,552	-49.9		6	26,871	-47.8						5	27,001	-44.2	

	SWAN ISLAND, W. I. (1012 MB.)				TACUBAYA, MEXICO (774 MB.)				TAMPA, FLA. (1017 MB.)				TATOOSH ISLAND, WASH. (1013 MB.)				VERACRUZ, MEXICO (1011 MB.)				WASHINGTON, D. C. (1007 MB.)				YAKUTAT, ALASKA (1015 MB.)			
SURFACE	31	10	26.7	83	28	2,306	15.6	77	31	7	24.3	87	31	31	12.5	90	26	13	26.8	83	31	88	24.9	78	31	12	13.6	77
1,000--	31	118	26.1	83	28	65			31	159	25.5	80	31	135	12.1	87	26	106	26.3	83	31	149	25.5	75	31	134	12.3	80
950----	31	570	22.8	82	28	526			31	609	23.3	77	31	568	10.8	78	26	553	23.1	85	31	607	24.4	68	31	566	10.0	79
900----	31	1,039	19.9	80	28	999			31	1,081	20.4	76	31	1,015	9.9	68	26	1,029	20.3	83	31	1,074	21.1	71	31	1,011	8.4	74
850----	31	1,530	17.4	73	28	1,494			31	1,574	17.4	74	31	1,489	8.1	65	26	1,521	17.5	78	31	1,566	17.5	73	31	1,482	6.8	71
800----	31	2,046	14.7	65	28	2,022			31	2,090	14.4	70	31	1,988	5.8	61	26	2,038	14.9	75	31	2,083	14.3	68	31	1,978	4.5	68
750----	31	2,593	11.6	60	28	2,571	14.1	77	31	2,642	11.4	65	31	2,517	3.2	59	26	2,593	11.6	75	31	2,631	11.2	61	31	2,505	1.6	67
700----	31	3,163	8.3	56	28	3,108	10.1	82	31	3,207	8.2	62	31	3,070	.1	55	24	3,156	8.2	73	31	3,199	8.0	58	31	3,055	- 1.3	67
650----	31	3,777	4.7	55	28	3,771	6.1	86	31	3,821	4.6	65	31	3,663	- 3.0	53	23	3,777	4.9	74	30	3,816	4.8	50	31	3,647	- 4.5	64
600----	30	4,421	1.1	52	28	4,414	2.3	87	31	4,465	.8	68	31	4,291	- 6.5	49	23	4,417	1.5	74	30	4,458	1.4	44	31	4,268	- 8.4	55
550----	29	5,118	- 3.0	52	27	5,115	- 1.4	86	31	5,165	- 2.9	65	31	4,965	-10.9	42	22	5,121	- 2.0	73	30	5,157	- 2.6	41	31	4,942	-12.3	49
500----	29	5,865	- 7.2	48	26	5,868	- 5.6	83	30	5,910	- 7.3	63	31	5,691	-15.6	36	22	5,869	- 6.2	67	30	5,903	- 7.0	39	30	5,665	-16.7	43
450----	29	6,687	-12.0	46	24	6,695	-10.3	77	30	6,738	-12.3	58	31	6,482	-21.4	36	21	6,701	-11.2	61	30	6,725	-12.1		30	6,456	-22.0	43
400----	29	7,571	-17.6	50	23	7,587	-15.8	67	30	7,614	-18.0	53	31	7,335	-27.8	36	20	7,582	-17.0	60	30	7,609	-18.2		30	7,304	-28.3	43
350----	29	8,556	-24.7	52	22	8,580	-22.6		30	8,599	-25.1	50	31	8,280	-34.4	38	20	8,570	-23.9	47	30	8,591	-25.5		30	8,246	-35.7	
300----	29	9,658	-33.2	49	18	9,692	-31.2		30	9,699	-33.6	47	31	9,341	-41.2		18	9,675	-32.8		30	9,688	-34.2		30	9,298	-43.7	
250----	28	10,912	-43.2		10	10,960	-41.1		30	10,951	-43.8		31	10,562	-46.3		16	10,937	-43.1		30	10,935	-44.3		30	10,501	-50.0	
200----	28	12,373	-55.6						30	12,411	-56.0		31	12,037	-47.8		15	12,402	-55.6		29	12,391	-55.7		30	11,949	-50.7	
175----	27	13,211	-62.3						30	13,247	-62.2		31	12,916	-49.0		13	13,235	-63.0		29	13,229	-61.4		30	12,821	-49.3	
150----	26	14,144	-69.2						30	14,186	-67.5		31	13,922	-50.7		9	14,159	-70.5		27	14,171	-65.9		30	13,830	-49.3	
125----	22	15,218	-73.8						28	15,277	-69.3		31	15,105	-52.0		8	15,234	-74.1		25	15,265	-67.6		30	15,022	-49.7	
100----	18	16,524	-71.7						28	16,610	-68.2		31	16,544	-52.7						25	16,612	-65.9		30	16,480	-49.7	
80-----	15	17,844	-69.0						25	17,956	-65.6		31	17,982	-53.3						23	17,973	-62.9		29	17,940	-49.7	
60-----	14	19,581	-63.1						24	19,718	-62.1		29	19,831	-52.8						21	19,754	-59.1		28	19,821	-49.3	
50-----	13	20,710	-60.0						22	20,851	-59.4		28	21,008	-51.8						19	20,903	-56.9		28	21,015	-48.9	
40-----	12	22,111	-56.7						22	22,258	-56.0		27	22,456	-50.1						17	22,327	-53.4		26	22,477	-48.1	
30-----	6	23,933	-53.0						18	24,102	-52.8		25	24,344	-47.3						14	24,178	-51.0		17	24,370	-46.5	
20-----									7	26,749	-49.1		14	27,054	-43.8						10	26,850	-47.5					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb)	*YUMA, ARIZ. (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	23	105	34.9	28
1,000--	23	50		
950----	23	508	31.8	31
900----	23	991	28.1	34
850----	23	1,495	24.1	37
800----	23	2,021	20.3	35
750----	23	2,580	16.4	
700----	23	3,156	12.6	
650----	23	3,776	8.3	
600----	23	4,428	3.8	
550----	23	5,124	- .9	
500----	23	5,882	- 5.7	
450----	23	6,703	-11.3	
400----	22	7,592	-18.1	
350----	21	8,572	-25.6	
300----	19	9,674	-33.8	
250----	16	10,932	-42.8	
200----	12	12,383	-54.2	
175----	9	13,232	-60.4	
150----	7	14,187	-65.7	
125----	5	15,278	-70.9	

* Army Signal Corps Testing Ground

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, ha formerly been computed and expressed on the basis of the vapor-pressure ov ice. All relative humidity observations are obtained by electric hygromet and have been adjusted to compensate for the value occurring below the opera ing range of the humidity element.

These average values for standard pressure surfaces were obtained by radi sondes; dynamic height (geopotential) in units of .98 dynamic meter, temper ture in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for March 1955

Standard pressure surface (mb)	DENVER, COLO. (829 MB.)				FT. WORTH, TEXAS (994 MB.)				OGDEN, UTAH (853 MB.)				RANTOUL, ILL. (987 MB.)				ROME, N. Y. (994 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,661	1.6	48	31	178	14.4	54	31	1,450	1.2	50	31	227	3.2	73	31	146	- 0.8	73
1,000--	31	107			31	123			31	154			31	121			31	102		
950----	31	536			31	557	13.9	55	31	575			31	539	3.4	69	31	514	- 1.4	73
900----	31	985			31	1,012	11.8	55	31	1,015			31	975	1.7	65	31	942	- 3.4	73
850----	31	1,451			31	1,489	9.7	52	31	1,482			31	1,434	.1	57	31	1,392	- 4.9	75
800----	31	1,943	2.2	44	31	1,990	7.7	47	31	1,969	- .4	46	31	1,919	- 1.4	51	31	1,867	- 7.0	73
750----	31	2,468	- .9	41	31	2,525	5.4	37	31	2,486	- 4.5	50	31	2,436	- 4.0	51	31	2,370	- 9.7	65
700----	31	3,009	- 4.6	45	31	3,080	2.0	33	31	3,022	- 8.1	52	31	2,973	- 6.6	48	31	2,899	-12.2	60
650----	31	3,592	- 8.6	45	31	3,675	- 1.8	33	31	3,597	-11.8	55	31	3,554	- 9.9	47	31	3,467	-14.9	52
600----	31	4,204	-12.6	43	31	4,307	- 5.5		31	4,202	-15.6	57	31	4,161	-14.0	46	31	4,065	-18.4	48
550----	31	4,864	-17.2	41	31	4,981	- 9.6	34	31	4,855	-19.9	52	31	4,819	-18.2	42	31	4,711	-22.3	45
500----	31	5,569	-22.5		31	5,710	-15.7	34	31	5,554	-24.4	46	31	5,522	-22.9	42	31	5,403	-26.9	44
450----	31	6,340	-28.3		31	6,500	-21.6		31	6,316	-29.4		31	6,293	-27.9	43	31	6,160	-31.4	
400----	31	7,169	-34.1		31	7,353	-27.5		31	7,146	-35.2		31	7,124	-33.7		31	6,981	-36.3	
350----	31	8,089	-41.3		31	8,299	-34.6		31	8,062	-41.8		31	8,046	-40.2		31	7,895	-42.0	
300----	31	9,118	-48.6		31	9,357	-42.8		31	9,088	-48.9		31	9,081	-46.9		31	8,925	-47.5	
250----	31	10,301	-54.4		31	10,562	-52.0		30	10,259	-55.8		30	10,271	-53.3		29	10,110	-52.4	
200----	31	11,718	-56.6		29	11,980	-57.7		30	11,669	-56.8		30	11,693	-55.9		29	11,547	-53.4	
175----	30	12,564	-56.1		28	12,824	-57.9		29	12,519	-55.9		30	12,545	-54.4		29	12,408	-53.1	
150----	30	13,544	-56.2		26	13,800	-59.9		28	13,494	-56.3		30	13,529	-55.6		26	13,405	-53.8	
125----	30	14,698	-58.4		23	14,923	-63.9		28	14,646	-58.2		29	14,681	-58.1		24	14,570	-54.8	
100----	29	16,095	-60.4		15	16,263	-66.8		25	16,038	-60.5		24	16,067	-60.7		22	15,992	-56.8	
80-----	28	17,481	-62.6		10	17,574	-68.2		20	17,411	-61.9		22	17,453	-61.4		17	17,391	-57.7	
60-----	22	19,255	-64.1		7	19,294	-67.5		18	19,195	-62.0		22	19,223	-63.8		15	19,175	-59.9	
50-----	18	20,377	-63.8						16	20,310	-62.6		21	20,341	-62.0		6	20,337	-57.9	
40-----	11	21,768	-61.6						11	21,679	-60.8		19	21,720	-60.4		5	21,725	-58.5	
30-----	7	23,577	-55.9						5	23,500	-58.2		15	23,520	-56.4					
20-----													11	26,177	-50.2					
15-----													7	28,111	-45.5					

* April data for the above Air Force stations will be included in the August issue of this publication.

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, ha formerly been computed and expressed on the basis of the vapor-pressure ov ice. All relative humidity observations are obtained by electric hygromet and have been adjusted to compensate for the value occurring below the operat ing range of the humidity element.

These average values for standard pressure surfaces were obtained by radi sondes; dynamic height (geopotential) in units of .98 dynamic meter, temper ture in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

JULY 1955

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			1/ Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)			Ely Nev. (1,910 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	31	165	4.1	31	204	1.9	30	44	1.6	31	118	2.4	31	327	3.6	30	130	7.0	31	262	1.7	30	265	1.6	31	172	4.5	30	196	1.1	31	133	2.5	31	190	4.4
500	--	---	----	--	---	----	--	---	----	--	---	----	--	---	----	30	143	8.4	31	258	2.3	30	283	2.0	31	182	4.3	30	214	1.3	--	---	----	--	---	----
1,000	31	164	5.4	--	---	----	--	---	----	28	171	3.2	31	347	2.9	28	147	8.1	31	263	3.1	30	289	2.8	27	190	3.2	28	265	.8	--	---	----	--	---	----
1,500	31	164	5.1	--	---	----	30	85	2.0	28	170	3.7	31	328	1.0	24	160	6.8	31	268	3.5	30	288	5.0	27	234	1.6	27	272	.9	31	127	2.2	--	---	----
2,000	29	159	4.8	31	202	1.9	29	173	1.3	26	187	4.8	31	202	.9	20	161	5.9	31	286	3.8	30	284	6.9	25	248	1.2	25	296	1.2	31	134	2.3	31	192	4.3
2,500	28	157	4.1	31	180	1.9	28	231	2.2	21	197	5.9	31	204	2.8	16	159	4.6	31	290	4.0	29	295	7.2	21	252	.3	19	338	1.2	30	141	2.0	31	195	4.1
3,000	24	165	3.3	30	169	2.3	27	241	4.1	21	207	7.0	31	222	5.5	14	158	4.6	31	295	4.2	26	312	7.5	21	95	.9	16	328	2.9	29	147	2.1	31	199	4.8
4,000	19	182	2.7	27	169	1.4	23	242	7.1	20	234	6.1	30	219	6.6	10	152	4.1	31	298	5.3	24	307	9.3	18	60	.5	10	351	3.9	26	137	2.3	31	210	5.8
5,000	16	212	1.4	22	219	1.8	21	248	9.7	18	236	7.7	29	220	11.3				30	304	6.9	21	301	9.0	11	9	1.4				23	189	1.2	24	221	9.0
6,000	13	174	.8	21	225	1.7	18	238	12.2	14	246	11.5	25	226	13.3				29	299	8.6	19	309	11.5							20	187	.8	19	224	14.4
8,000				14	252	4.1							18	232	15.4				29	301	11.2	14	302	13.9							16	225	2.6	16	232	18.5
10,000				13	256	7.7							10	236	16.9				28	303	10.4	10	305	17.1							15	246	5.1	11	237	22.3
12,000				11	249	12.4													28	310	11.4										12	238	7.6			
14,000																			28	307	9.3										10	262	8.2			
16,000																			27	328	6.2															

	Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Little Rock, Ark. (88 m.)			Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			2/ Oakland, Calif. (8 m.)			Omaha, Nebr. (306 m.)		
Surface	31	231	3.6	31	182	0.5	29	171	0.6	29	274	0.5	30	117	3.7	31	161	1.6	31	312	2.3	30	108	5.0	28	185	3.4	30	285	0.8	31	278	4.9	31	160	2.8
500	--	---	----	31	244	.6	29	203	1.1	-	---	---	30	140	4.1	31	176	1.4	30	311	2.8	30	124	4.8	28	187	4.2	30	273	1.1	31	274	3.9	31	162	3.5
1,000	--	---	----	30	248	2.2	27	209	1.8	29	198	.6	29	167	3.2	29	176	1.3	30	354	3.0	29	129	4.5	25	180	2.1	27	298	.8	31	272	3.2	31	166	5.5
1,500	31	232	3.5	27	261	3.9	27	232	1.7	27	219	1.3	29	175	2.6	21	230	1.1	29	293	2.2	28	125	4.2	23	147	1.0	26	265	.3	31	261	2.3	31	182	5.3
2,000	31	230	2.8	23	266	4.4	24	267	2.4	25	215	3.5	29	185	1.6	16	252	2.7	28	232	2.7	26	126	3.6	22	134	.8	24	25	.8	31	248	2.2	31	201	6.3
2,500	30	224	2.2	20	271	5.1	21	284	2.6	22	244	7.8	26	157	.8	11	224	1.6	27	217	3.7	25	116	4.0	17	151	.8	19	334	.8	31	246	3.0	30	211	6.6
3,000	30	221	2.6	20	279	4.7	19	299	2.8	21	240	9.1	25	100	1.5				26	218	4.5	24	111	3.8	12	178	1.0	16	351	1.2	31	241	4.3	28	225	6.1
4,000	29	215	3.4	19	272	7.0	16	296	2.4	16	244	9.5	21	105	1.7				26	232	6.1	21	127	2.3				15	319	2.0	31	234	6.6	26	227	5.6
5,000	28	216	4.1	17	285	8.2	13	324	1.8	12	233	10.9	14	56	3.4				26	235	9.4	15	126	1.2				10	342	3.1	31	237	8.8	23	237	5.1
6,000	26	225	6.2	14	289	8.1	11	354	2.7	12	229	12.0	10	42	3.1				25	226	10.7	14	115	2.0							31	242	10.6	20	244	5.5
8,000	25	230	8.3										10	52	3.5				24	231	15.5										31	241	13.7	18	244	7.0
10,000	22	246	7.9																12	230	12.4										30	239	19.1	15	228	8.5
12,000	14	255	9.6																												30	235	23.0	15	234	10.5
14,000																															30	232	17.6	14	235	9.6
16,000																															28	212	9.0			

	Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			3/ Sault, Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			4/ Washington, D. C. (88 m.)		
Surface	31	236	0.3	31	137	2.3	31	167	1.8	31	155	4.1	31	270	3.4	31	254	2.8	30	215	1.9	31	163	1.1
500	31	214	.4	--	---	----	31	156	2.4	31	150	4.8	30	269	2.2	31	268	3.4	-	---	---	31	181	1.0
1,000	31	196	1.5	31	176	2.4	30	190	3.4	30	150	4.8	29	246	1.0	31	263	4.5	30	205	2.4	31	252	.8
1,500	31	207	2.2	31	155	3.5	27	215	5.3	30	141	5.3	28	184	.8	31	265	5.4	30	207	2.6	31	300	1.5
2,000	30	196	2.6	30	176	4.2	26	232	6.2	28	137	5.4	28	206	1.9	31	279	6.4	26	199	3.5	31	308	2.6
2,500	30	191	3.6	29	207	4.2	22	242	6.8	28	135	4.9	28	202	2.6	31	288	7.1	25	200	5.0	31	309	2.8
3,000	30	185	3.9	28	226	4.6	21	244	7.9	25	136	3.7	28	220	3.2	31	291	8.0	23	209	6.9	31	309	2.8
4,000	30	176	3.4	25	241	6.7	21	262	7.8	18	137	2.0	25	219	4.7	31	286	9.1	18	220	10.7	31	318	2.5
5,000	29	169	3.1	23	247	9.0	18	273	8.6	13	147	3.7	23	214	4.4	30	294	10.7	14	217	15.3	31	323	2.8
6,000	27	162	2.7	20	239	8.8	17	265	10.2	11	122	3.2	21	223	5.2	29	289	11.3	13	213	16.9	31	321	4.1
8,000	22	215	3.1	13	238	12.0	12	258	11.3				19	228	6.5	29	289	14.9				31	308	5.9
10,000	14	248	6.9										18	224	9.7	29	283	16.4				31	312	6.1
12,000	12	248	8.6										12	229	11.6	29	283	15.7				31	319	4.7
14,000																25	286	16.4				31	329	5.7
16,000																23	291	10.0				30	10	4.7

1/ Rawin Data (Cont'd.)

18,000 m., 22 obs., 24 dir., 2.9 speed
20,000 m., 19 obs., 84 dir., 3.9 speed
22,000 m., 14 obs., 86 dir., 4.5 speed

2/ Rawin Data (Cont'd.)

18,000 m., 28 obs., 169 dir., 4.8 speed
20,000 m., 27 obs., 111 dir., 6.7 speed
22,000 m., 27 obs., 101 dir., 8.6 speed
24,000 m., 26 obs., 95 dir., 10.9 speed
26,000 m., 25 obs., 96 dir., 11.3 speed
28,000 m., 19 obs., 100 dir., 11.9 speed

3/ Rawin Data (Cont'd.)

18,000 m., 22 obs., 309 dir., 3.4 speed
20,000 m., 16 obs., 58 dir., 2.0 speed
22,000 m., 14 obs., 61 dir., 3.3 speed
24,000 m., 10 obs., 80 dir., 6.0 speed

4/ Rawin Data (Cont'd.)

18,000 m., 29 obs., 66 dir., 4.4 speed
20,000 m., 28 obs., 90 dir., 6.2 speed
22,000 m., 27 obs., 92 dir., 6.6 speed
24,000 m., 27 obs., 87 dir., 9.8 speed
26,000 m., 12 obs., 87 dir., 12.1 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Altitude (meters) m s l	Albuquerque, N. Mex. (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)			El Paso, Tex. (1,195 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	140	3.6	31	239	3.0	31	210	2.2	31	50	2.5	31	84	2.7	31	122	5.0	31	233	1.3	31	183	1.8	31	251	1.9	31	183	2.3	31	148	2.2	31	72	1.9
500	-	---	----	31	164	2.5	31	165	.7	29	106	2.7	--	---	----	31	143	10.2	30	243	2.3	31	161	2.3	31	266	3.7	31	210	6.7	31	158	5.0	--	---	----
1,000	-	-	---	31	144	2.8	31	143	7	29	144	1.2	30	106	3.1	30	145	10.6	30	285	2.9	31	154	2.3	30	293	5.4	31	223	4.5	31	176	4.5	--	---	----
1,500	-	---	----	31	126	4.1	31	123	.5	29	210	1.7	30	169	2.6	30	146	8.6	30	291	3.8	30	130	2.3	29	297	5.6	31	235	2.9	31	196	3.4	31	111	3.1
2,000	31	167	4.5	31	129	4.4	31	160	.8	29	216	2.4	29	228	4.9	29	153	7.1	30	294	4.3	30	118	2.3	29	297	6.6	31	231	1.7	31	223	2.1	31	143	4.4
2,500	31	174	4.2	31	137	4.5	31	143	.8	30	223	3.8	28	239	5.4	29	146	6.0	30	298	5.0	30	112	2.6	29	297	7.3	31	214	1.1	31	246	1.2	31	151	4.0
3,000	31	175	3.6	31	149	4.3	31	189	.7	31	227	4.2	28	250	5.6	29	139	4.7	30	297	5.2	30	109	2.6	29	298	7.9	31	198	1.1	31	248	1.1	31	161	3.8
4,000	31	122	.8	31	155	3.9	31	173	1.5	30	230	4.9	27	249	6.9	29	129	3.9	30	303	5.8	30	101	1.4	29	294	10.1	31	145	1.2	30	26	.4	31	161	2.2
5,000	31	334	1.1	29	157	4.0	30	129	1.8	30	226	5.2	27	245	8.5	29	122	3.5	30	309	6.0	30	97	1.6	27	293	11.1	31	91	2.1	30	19	.8	31	115	.6
6,000	30	304	2.3	29	153	4.5	30	161	1.3	30	232	7.0	25	254	8.5	29	95	3.3	28	300	7.0	30	98	2.7	27	296	13.1	31	73	3.0	30	325	1.3	30	231	.2
8,000	30	256	2.9	29	170	2.6	25	109	4.7	28	232	8.3	20	253	13.4	29	74	3.6	28	312	9.9	29	84	5.1	22	301	17.3	31	54	5.7	30	276	3.6	30	276	2.6
10,000	28	256	5.9	26	225	6.4	20	115	6.5	26	234	7.4	14	253	14.6	29	62	4.3	27	308	11.6	29	63	6.5	18	298	20.4	30	47	8.8	30	260	6.7	27	294	6.2
12,000	24	254	6.7	24	251	3.2	18	112	3.1	26	230	6.5	13	253	18.1	27	49	5.7	26	307	12.8	28	53	9.0	14	323	20.5	30	46	9.7	30	253	8.5	25	290	7.2
14,000	20	246	4.1	23	258	1.8	18	192	1.8	26	224	3.9	11	254	14.6	20	57	10.6	25	311	11.7	26	60	10.3				30	42	11.0	29	274	5.4	25	302	5.3
16,000	15	103	1.3	22	268	2.0	18	169	1.9	25	226	2.9				10	56	11.9	24	331	6.8	22	69	9.3				25	66	11.0	25	97	.6	17	92	3.9
18,000	11	96	5.3	22	27	.1	17	155	1.5	25	226	1.6							21	14	3.1	18	79	8.1				22	89	7.7	23	90	4.7	12	97	8.7
20,000	10	88	10.7	20	49	2.5	17	97	3.1	27	93	.6							16	58	4.3	17	81	11.8				21	85	9.7	21	89	7.8	10	90	14.1
22,000				13	67	4.5	13	100	5.3	26	92	2.6							11	68	5.2	17	84	17.8				16	83	14.4	19	86	10.5	11	92	15.5
24,000										14	135	2.0							10	81	10.3	13	85	20.6				11	91	18.0	15	92	11.7	11	86	17.0

	Fairbanks, Alaska, (135 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)		
Surface	31	241	1.2	31	128	1.4	31	197	0.8	31	193	3.7	29	190	0.5	31	157	2.0	31	330	5.0	31	91	1.9	31	136	3.7	31	216	2.8	29	188	0.8	30	187	3.1
500	31	254	2.3	--	---	----	30	204	3.3	31	218	6.1	29	228	1.7	31	184	3.9	31	329	5.7	31	118	4.7	--	---	----	30	254	5.7	27	201	2.0	30	160	2.6
1,000	31	256	2.9	--	-	----	30	219	3.1	31	239	4.3	29	230	2.1	31	179	3.3	31	318	6.1	31	128	5.1	31	144	6.2	30	275	5.3	27	191	1.7	29	152	3.0
1,500	31	247	3.0	31	127	1.3	30	235	2.6	31	252	2.4	29	238	3.5	31	168	2.1	31	299	4.0	31	127	4.4	31	156	10.3	29	290	4.4	28	177	1.5	29	152	3.4
2,000	31	229	3.1	31	207	2.9	30	257	1.1	31	289	1.8	29	260	4.1	31	151	1.2	31	267	3.2	31	129	4.1	31	158	9.0	29	298	4.5	28	158	1.4	29	167	4.3
2,500	31	206	3.6	31	218	3.6	30	321	.7	31	305	1.5	29	273	5.2	31	128	.8	29	249	3.9	31	130	3.9	31	155	6.5	30	301	4.4	28	145	1.3	30	168	4.7
3,000	30	201	3.7	31	207	3.9	30	309	.5	31	283	1.6	29	279	6.9	31	92	1.0	29	244	5.1	31	127	3.7	31	144	4.8	31	298	5.1	30	121	1.9	30	169	5.2
4,000	30	184	3.4	31	217	3.5	30	298	.8	31	239	.6	29	276	7.7	30	125	.8	29	233	6.5	31	116	3.6	31	94	1.7	30	294	7.4	30	111	1.8	28	161	4.0
5,000	29	171	4.1	31	222	3.8	31	34	.9	31	59	.9	28	276	9.8	30	53	2.2	30	241	8.9	31	104	4.1	29	40	1.6	30	299	7.9	30	81	1.9	27	168	3.6
6,000	28	172	3.6	31	233	4.8	30	34	1.8	31	57	2.3	26	274	11.1	29	47	3.0	31	239	11.3	31	87	4.4	28	44	1.3	29	311	8.6	30	57	1.7	27	191	2.9
8,000	24	170	5.7	27	242	9.1	27	8	3.1	31	39	5.3	26	271	16.5	29	22	1.9	27	236	12.9	31	58	4.0	27	352	1.4	28	320	9.7	30	67	.6	26	191	5.0
10,000	22	165	5.8	24	236	9.0	27	6	4.8	31	33	8.6	26	266	20.2	28	360	1.4	24	236	15.2	30	31	5.0	27	317	3.1	25	311	10.5	30	342	1.3	20	245	6.8
12,000	19	205	4.7	19	234	3.7	23	360	3.6	31	24	9.6	25	266	19.9	28	238	1.9	21	235	16.1	30	16	7.1	26	317	4.1	25	322	10.5	30	327	3.3	19	266	3.6
14,000	16	221	4.7	17	259	2.1	20	5	5.3	30	26	11.5	22	266	16.6	28	310	2.4	17	239	11.4	27	40	7.1	26	26	1.2	24	341	10.5	30	2	3.9	12	258	3.1
16,000	16	205	2.8	14	125	2.0	16	59	7.7	27	52	8.5	18	275	10.5	19	58	6.4	17	238	6.0	25	75	7.9	21	81	4.5	24	349	5.9	26	57	5.9	12	262	1.9
18,000	15	191	1.8	12	102	7.3				23	77	6.9	14	317	3.3	13	78	7.6	17	166	3.1	21	89	10.5	18	90	9.9	24	36	3.6	21	74	6.6	10	4	.5
20,000	13	56	1.2	10	76	9.0				21	83	9.8	12	47	3.8	11	79	9.4	17	85	4.5	17	84	14.8	17	86	12.7	23	59	5.2	20	78	8.6			
22,000	13	92	4.2							19	80	12.2	11	77	5.3	11	87	12.5	14	82	7.4	13	87	20.5	16	89	15.6	22	81	7.7	18	91	11.5			
24,000										16	88	14.1							11	89	9.7				15	87	18.0	22	90	10.1	13	85	11.9			
26,000																									12	91	17.2	16	90	10.9						

	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St.Paul,Is. Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie,Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is., Wash. (31 m.)			Washington, D. C. (88 m.)		
Surface	31	276	4.6	31	153	4.4	31	38	2.0	31	110	1.3	25	191	1.3	31	143	5.3	31	90	2.6	31	295	4.2	31	253	0.8	31	192	1.0	31	233	3.1	31	179	2.2
500	31	280	5.1	31	158	6.0	--	---	----	31	132	3.3	25	201	3.4	31	140	9.2	31	92	7.9	31	319	3.3	31	280	2.0	--	---	----	30	251	4.3	31	210	3.9
1,000	31	284	5.9	30	169	8.5	31	42	2.1	31	173	4.5	25	211	4.7	31	149	9.5	31	97	8.4	31	332	3.9	31	276	4.0	31	210	2.1	29	233	3.1	31	242	2.5
1,500	31	273	3.9	30	175	7.5	31	126	2.8	31	209	4.4	25	217	4.9	31	145	7.3	31	92	8.4	31	14	2.4	31	268	4.4	31	234	3.4	29	206	2.3	31	294	2.0
2,000	31	261	3.5	30	189	5.9	31	177	4.0	31	224	4.7	25	220	5.6	31	141	4.7	31	93	8.3	31	66	1.8	31	278	5.2	31	229	4.2	29	211	2.4	31	320	2.6
2,500	31	252	3.3	30	196	3.7	31	199	4.8	31	245	4.8	25	228	6.8	31	132	3.9	31	91	8.2	31	68	.3	31	294	6.0	31	233	5.2	29	230	2.7	31	320	2.7
3,000	31	248	3.9	31	184	2.5	31	213	5.5	31	248	5.2	25	232	7.3	31	124	4.0	31	92	7.9	31	257	2.2	31	298	6.5	31	232	6.7	29	226	3.0	31	306	2.3
4,000	31	246	5.6	31	147	1.9	31	233	6.0	31	258	5.5	25	237	8.7	31	121	3.3	31	99	6.6	31	257	4.1	31	301	7.5	31	225	8.0	29	238	3.8	30	305	1.8
5,000	31	249	7.7	31	123	1.2	30	251	7.6	31	265	6.2	25	236	10.2	30	103	2.7	31	99	6.1	31	244	6.3	31	301	8.9	31	220	10.0	29	240	5.1	29	313	2.0
6,000	31	249	10.1	31	259	.4	30	250	8.7	31	263	7.0	24	242	11.3	30	88	2.6	31	102	4.9	31	246	8.7	31	299	9.5	30	225	10.9	29	228	5.8	29	329	3.7
8,000	31	246	14.8	31	238	1.7	29	250	12.1	31	256	7.9	21	242	13.0	29	59	2.3	31	150	2.7	30	244	12.0	30	294	12.5	30	218	14.2	29	238	7.2	29	335	5.7
10,000	31	243	20.0	31	242	3.9	29	242	10.8	30	257	10.2	19	231	15.9	29	25	2.9	31	223	3.5	30	242	15.7	29	289	14.7	28	219	17.1	29	250	10.2	29	334	6.8
12,000	31	238	21.6	31	238	3.5	29	233	13.1	29	265	10.1	19	242	17.1	27	8	2.5	30	244	6.5	28	233	16.4	28	281	17.9	27	224	17.8	29	243	12.6	28	335	7.1
14,000	31	233	16.4	31	200	1.6	28	236	12.4	29	261	9.7	16	254	13.8	24	44	3.3	31	241	6.6	28	219	11.5	22	296	14.8	25	215	13.4	29	231	10.9	27	348	6.9
16,000	31	222	9.5	27	93	3.5	26	232	5.5	27	282	5.2	13	254	5.1	20	65	6.0	29	131	4.8	26	210	8.6	14	312	8.7	25	206	7.5	29	223	6.5	25	21	5.0
18,000	30	171	3.0	27	95	7.6	24	107	2.1	24	34	2.6	13	262	2.2	18	81	9.9	27	90	9.8	20	114	3.4				27	168	3.3	29	180	3.1	23	52	4.5
20,000	30	97	5.8	25	88	9.3	20	83	4.7	23	63	4.2	12	79	1.0	18	81	13.4	26	81	14.7	19	93	8.2				24	117	3.0	27	113	4.2	21	71	6.8
22,000	29	93	9.4	23	85	12.1	17	84	7.2	19	77	6.7	11	75	4.6	17	84	15.0	25	87	17.0	18	87	12.0				20	98	5.8	26	95	4.1	16	89	9.6
24,000	29	88	10.7	23	89	14.5	12	89	9.0	15	78	8.2				11	84	18.5	20	87	19.8	12	92	13.8				15	100	6.0	23	93	7.0	12	91	10.0
26,000	21	88	12.6	16	90	14.0													13	93	25.3										18	101	9.4	11	96	11.5
28,000	15	90	13.3																																	

	Yakutat, Alaska (12 m.)			*Yuma, Ariz. (105 m.)		
Surface	31	253	2.1	17	187	3.5
500	30	171	.9	17	229	5.2
1,000	30	142	1.5	17	225	3.7
1,500	29	285	.4	17	204	2.8
2,000	29	360	.5	16	268	1.6
2,500	29	81	.6	16	272	2.2
3,000	30	149	.8	16	270	2.4
4,000	30	181	1.2	16	234	3.3
5,000	30	143	1.1	17	235	4.7
6,000	31	155	2.3	17	245	3.5
8,000	30	167	3.1	16	239	5.2
10,000	26	182	3.9	14	237	7.6
12,000	25	254	3.6			
14,000	25	256	2.2			
16,000	25	277	2.1			
18,000	25	227	.6			
20,000	27	87	2.3			
22,000	24	98	4.2			
24,000	15	91	7.5			

* Army Signal Corps

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

Table 22 *Air Force Data for March 1955

Altitude (meters) m.s.l.	Denver, Colo. (1,661 m.)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul, Ill. (227 m.)			Rome, N. Y. (146 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	63	0.3	31	165	0.9	31	68	0.7	31	273	1.4	31	262	1.9
500	--	---	----	31	180	3.8	--	---	----	30	257	5.0	30	251	5.1
1,000	--	---	----	31	209	6.8	--	---	- --	30	269	6.5	29	264	9.2
1,500	--	---	-- -	31	238	7.3	31	64	.5	30	274	9.0	30	273	13.6
2,000	31	293	2.6	31	255	9.2	31	235	2.9	30	272	11.2	30	274	15.3
2,500	31	286	3.7	31	268	11.3	31	253	5.6	30	275	12.9	30	277	16.3
3,000	31	282	7.2	31	268	13.7	31	270	8.5	31	275	15.1	31	280	18.2
4,000	31	278	11.9	31	270	17.2	31	279	11.6	31	275	19.7	31	275	23.2
5,000	31	286	17.6	31	268	20.8	31	287	14.7	31	275	24.6	30	277	27.8
6,000	31	282	20.4	31	267	23.3	31	291	18.0	31	273	29.7	28	272	28.4
8,000	27	279	22.8	31	267	32.2	30	290	23.6	31	272	38.8	22	278	36.1
10,000	24	278	26.0	31	259	37.6	27	286	26.4	29	273	42.8	21	275	41.8
12,000	23	277	34.3	30	260	44.8	26	280	26.6	27	274	40.6	19	277	34.7
14,000	21	272	37.9	26	263	41.3	24	269	27.3	27	276	36.2	16	278	32.8
16,000	16	278	21.9	16	262	33.6	20	264	21.8	21	274	34.4	15	275	28.7
18,000	14	269	15.3	10	263	29.6	17	264	19.1	17	274	26.1	11	265	18.4
20,000							14	271	14.8	16	271	19.6			
22,000										15	263	13.6			
24,000										11	270	10.5			

* April data for the above Air Force stations will be included in the August issue of this publication.

These free air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E - 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.08	3.26	2.44	1.63	Noon	1.63	2.44	3.26	4.08
July									
1	0.89	0.96	1.08	1.23	1.40	1.19	1.01	0.92	0.84
2	.83	.93	1.04	1.21	1.44	1.20	----	----	----
3	----	.85	----	1.16	1.34	----	----	----	----
4	.59	.67	.81	1.00	----	----	----	----	----
5	----	----	----	.78	1.15	----	----	----	----
6	.56	.65	----	----	----	----	----	----	----
7	----	----	----	----	----	----	.86	.76	.69
8	.73	.80	.91	1.09	1.41	1.16	1.05	.87	.77
9	D .44	D .55	D .63	D .78	D1.25	----	----	----	----
10	.62	.71	.84	1.02	----	----	----	----	----
12	.78	.86	.97	1.11	----	----	----	----	----
13	.80	.88	----	----	----	----	----	----	----
14	.74	.83	.95	1.06	1.30	----	----	----	----
15	.63	.76	.88	1.06	1.30	----	----	----	----
18	.54	.63	.78	----	----	----	----	----	----
22	.62	.82	----	1.07	----	----	----	----	----
30	.77	.86	----	----	----	----	----	----	----
31	.76	.84	.96	1.12	----	----	----	----	----
Averages	.69	.79	.90	1.06	1.32	1.18	.97	.85	.77

TABLE MOUNTAIN, CALIF.

Date	Air mass								
	3.76	3.01	2.26	1.51	*0.75	1.51	2.26	3.01	3.76
July									
2	----	----	----	1.40	----	----	----	----	----
3	----	----	----	1.41	----	----	----	----	----
4	----	----	----	1.47	----	----	----	----	----
5	----	----	----	1.46	----	----	----	----	----
6	----	----	----	1.46	----	----	----	----	----
7	----	----	----	1.44	----	----	----	----	----
8	----	----	----	1.47	----	----	----	----	----
9	----	----	----	1.43	----	----	----	----	----
12	1.07	1.16	1.27	1.39	----	----	----	----	----
13%	----	----	----	1.27	----	----	----	----	----
16	----	----	----	1.34	----	----	----	----	----
17	----	----	----	1.36	----	----	----	----	----
21&	----	----	----	1.25	----	----	----	----	----
22&	----	----	----	1.24	----	----	----	----	----
23&	----	----	----	1.20	----	----	----	----	----
25	----	----	----	1.36	----	----	----	----	----
26	----	----	----	1.43	----	----	----	----	----
27	----	----	----	1.43	----	----	----	----	----
28	----	----	----	1.48	----	----	----	----	----
29	----	----	----	1.44	----	----	----	----	----
Averages	1.07	1.16	1.27	1.39	----	----	----	----	----

LINCOLN, NEBR.

Date	Air mass								
	4.77	3.81	2.86	1.91	*0.95	1.91	2.86	3.81	4.77
July									
2	----	----	----	----	1.20	0.90	0.67	0.54	0.45
11	----	----	----	----	1.20	.90	.67	.56	.45
20	----	----	----	----	1.20	.90	----	----	----
25	----	----	----	----	1.20	.92	.71	.54	.37
26	----	----	----	----	1.21	.94	.73	.58	.50
29	----	----	----	----	1.22	1.01	.84	.73	.62
Averages	----	----	----	----	1.21	.93	.72	.59	.48

MADISON, WIS.

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
July									
11	0.76	0.87	----	----	----	----	----	----	----
12	.68	.79	0.94	1.09	1.30	1.06	0.82	0.72	0.64
13	.62	.72	.86	1.05	1.32	1.00	.87	.70	.64
14	.47	.56	.71	.95	1.30	----	----	----	----
15	----	.79	.93	----	----	----	----	----	----
18	.43	.65	.81	.93	----	----	----	----	----
19	.34	.43	.59	.78	----	----	----	----	----
20	.28	.36	.53	.72	1.04	.56	.38	.27	----
21	.20	.29	.41	.59	----	----	----	----	----
22	.24	.31	.41	.58	----	----	----	----	----
24	----	----	.94	1.14	1.38	1.06	.90	.74	----
25	----	.74	.83	1.05	1.28	----	----	----	----
26	----	----	.67	.88	1.23	.94	.75	.68	.59
Averages	.45	.59	.72	.89	1.26	.92	.74	.62	.62

WASHINGTON, D.C. (WBCO)

Date	Air mass								
	4.96	3.97	2.98	1.99	Noon	1.99	2.98	3.97	4.96
July									
2#	----	----	----	0.70	----	----	----	----	----
7#	----	----	----	.69	----	----	----	----	----
13	----	----	----	.81	----	----	----	----	----
14	----	----	----	.69	.92	.59	----	----	----
15	----	----	----	**.66	1.05	----	----	----	----
17	----	----	----	**.79	----	----	----	----	----
20#	----	----	----	.53	----	----	----	----	----
22#	----	----	----	.84	----	----	----	----	----
25#	----	----	----	.76	----	----	----	----	----
26#	----	----	----	----	----	.64	----	----	----
27#	----	----	----	.57	----	----	----	----	----
Averages	----	----	----	.70	.98	.62	----	----	----

BLUE HILL, MASS.

Date	Air mass								
	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
July									
1HS	----	----	----	----	----	----	0.43	0.31	0.25
2HS	----	----	----	0.86	----	----	----	----	----
5	0.59	0.70	0.83	----	----	----	----	----	----
7	----	----	----	----	----	1.19	----	----	----
8	.66	.78	.94	1.13	----	----	----	----	----
9HS	----	----	----	.76	----	----	----	----	----
11	----	----	----	----	----	1.02	----	----	----
12FS	----	.71	.83	1.03	----	.86	.68	.55	.46
13FS	----	----	.79	.97	----	----	----	----	----
14FS	----	----	----	----	----	----	----	.40	.28
17%	----	----	----	----	----	.81	.58	.48	.38
20	----	----	----	----	----	1.09	.85	.68	.54
21HS	----	----	----	.85	----	.82	.65	.50	.40
22HS	.34	.47	.60	.80	----	.78	.54	.37	.28
23HS	.35	.45	.60	.78	----	----	----	----	----
26HS	----	----	----	----	----	----	----	.36	.25
29	----	----	----	----	----	1.23	1.07	.93	.84
31%	----	----	----	----	----	.94	.70	.57	.47
Averages	.49	.62	.77	.90	----	.97	.69	.52	.42

*	Extrapolated	D	Dust
**	Smoke	&	Thick haze
#	Milky sky	HS	Haze and smoke
%	Haze	FS	Wood or forest fire smoke

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in Monthly Weather Review, volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

ble 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
te	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
ngleys	158	182	167	143	133	146	174	157	175	152	150	173	187	166	168	167	42	147	154	180	136	151	150	137
te	23	24	25	26	27	28	29		30	31	1	2	3	4	5									
ngleys	159	102	128	162	150	66	134	127	128	126	140	147	132	151	122	136								

able 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
te	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
ngleys	376	294	341	366	228	152	404	309	366	316	310	389	431	368	262	348	55	261	345	376	229	317	346	260
te	23	24	25	26	27	28	29		30	31	1	2	3	4	5									
ngleys	334	110	107	337	323	66	202	211	330	269	328	349	392	315	289	325								

able 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
ate	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
angleys	229	250	244	204	164	233	238	223	269	240	273	281	258	259	265	263	5[illegible]	264	247	270	270	281	274	237
ate	23	24	25	26	27	28	29		30	31	1	2	3	4	5									
angleys	274	128	146	287	268	68	282	208	294	293	296	272	290	200	285	276								

able 31d Daily totals and average daily totals ty weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
ate	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
angleys	243	420	449	176	166	483	379	331	390	250	457	430	254	399	296	354	54	421	265	402	155	413	388	343
ate	23	24	25	26	27	28	29		30	31	1	2	3	4	5									
angleys	349	154	328	382	274	88	471	293	334	413	349	382	314	337	342	353								

able 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
ate	2	3	4	5	6	7	8		9	10	11	12	13	14	15		16	17	18	19	20	21	22	
angleys	243	277	154	172	278	163	173	209	238	309	148	167	303	229	360	25[illegible]	74	245	277	226	149	148	171	184
ate	23	24	25	26	27	28	29		30	31	1	2	3	4	5									
angleys	216		141	188	186	103	143	(158)	109	115	250	235	131	272	200	188								

ote: Langley is the unit used to denote one gram calorie per square centimeter

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	345	237	326	348	339	*308	*242	*193	*270	*198	[illegible]	[illegible]	147	339	[illegible]	391	393	[illegible]	418	*129	[illegible]	[illegible]	[illegible]	*[illegible]	*[illegible]	[illegible]	328	311	*235	*[illegible]	%[illegible]	287

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the North Carolina State College at Raleigh. The instrument with which they were measured has not been checked by the Weather Bureau.

* Estimated values owing to occurrence of rain during period While [illegible] is falling radiation is assumed to be zero

% Alfalfa mowed

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JULY 1955

	Aklavik, MacKenzie	Albuquerque, N. Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bismarck, N. Dak.	Boise, Idaho	Blue Hill, Mass.	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Columbus, Ohio	Davis, Calif.	Dodge City, Kans.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Ft. Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction,Colo	Grand Lake, Colo.	Great Falls, Mont.
1955																																	
July 2-----	617	841	345	537	669	688	602	679	719	557	521	634	587	125	575	789	675	615	745	856	656	638	135	816	671	680	583	746	575	794	839	740	665
July 3-----	698	801	742	510	171	630	552	(701)	572	591	569	625	---	518	531	425	670	452	749	864	703	603	341	775	(804)	423	634	736	679	455	848	438	291
July 4-----	350	637	815	429	422	647	507	446	380	676	676	701	526	705	548	748	553	517	747	784	475	---	682	727	819	389	546	776	652	532	725	585	137
July 5-----	528	764	258	529	367	519	286	617	729	498	449	654	554	712	685	693	409	489	782	849	606	---	189	682	815	646	720	782	565	564	839	699	726
July 6-----	660	523	339	613	476	514	402	604	693	336	279	648	588	706	259	627	280	340	754	854	580	---	295	730	823	475	719	781	692	587	855	525	389
July 7-----	673	726	427	750	252	552	611	764	765	523	680	529	587	707	605	387	695	377	773	847	482	717	270	658	822	470	730	764	635	550	851	737	373
July 8-----	452	823	521	(458)	201	488	717	(713)	719	552	497	157	562	629	549	624	694	493	---	---	382	642	657	768	809	596	729	763	266	529	846	731	720
Averages------	569	731	492	(547)	365	577	525	(646)	654	533	524	564	567	586	536	613	568	469	758	842	555	650	367	736	(795)	525	665	764	581	573	829	636	472
July 9-----	398	789	424	335	390	337	476	370	295	598	551	100	594	695	592	598	684	77	734	902	458	682	711	776	741	---	672	737	241	697	830	620	475
July 10-----	725	727	421	242	237	416	677	379	339	472	449	542	540	613	585	789	628	421	735	939	738	402	704	778	537	476	574	738	---	569	785	580	337
July 11-----	166	(553)	319	331	557	362	692	700	722	667	697	513	422	684	442	805	671	738	736	910	712	667	292	244	646	241	697	749	358	228	273	373	92
July 12-----	274	702	451	494	560	324	692	419	813	682	678	498	581	620	593	822	704	735	726	487	740	751	620	338	(778)	245	641	725	509	481	816	547	361
July 13-----	287	680	739	390	644	310	437	490	742	560	459	582	596	655	318	758	657	646	728	723	737	583	724	781	783	466	586	741	626	749	819	770	759
July 14-----	668	800	782	715	592	508	361	650	---	604	516	587	---	394	352	700	248	541	625	852	486	639	676	708	645	379	663	554	632	762	794	642	732
July 15-----	548	782	823	731	474	626	(619)	587	518	518	500	693	594	---	346	326	688	229	741	396	302	577	552	733	580	563	557	708	451	748	791	546	734
Averages------	438	(719)	566	463	494	412	(565)	514	572	586	550	502	554	610	461	686	611	484	718	744	596	614	611	622	(673)	395	627	708	470	605	730	567	499
July 16-----	390	709	805	688	551	569	(460)	634	806	79	88	703	547	63	685	655	674	570	774	814	565	174	414	576	(731)	248	447	756	510	764	796	557	719
July 17-----	571	(557)	184	515	646	498	410	707	716	592	570	729	521	305	590	688	581	582	757	817	547	604	644	534	763	458	424	740	655	729	807	736	693
July 18-----	621	502	221	472	581	544	515	700	734	562	---	723	448	576	569	537	523	415	759	661	651	631	639	629	575	675	618	753	609	720	785	707	542
July 19-----	(572)	651	243	711	736	674	412	(715)	411	594	---	663	469	734	545	737	400	330	726	347	667	667	753	738	650	613	706	714	570	726	736	585	737
July 20-----	245	628	343	638	575	403	516	703	610	610	604	413	554	591	611	773	644	677	745	537	703	651	691	284	---	647	658	702	500	674	769	499	439
July 21-----	434	663	293	606	550	272	188	610	572	626	628	701	581	575	468	709	450	681	709	531	631	675	712	507	531	586	656	679	494	711	729	382	727
July 22-----	487	553	314	317	541	430	514	679	458	612	593	692	607	327	331	723	640	641	700	655	642	673	286	365	654	646	672	683	427	598	650	296	388
Averages------	(474)	(609)	343	564	597	484	(431)	(678)	615	525	497	661	532	453	543	689	559	556	739	626	630	582	591	519	(651)	553	597	718	538	703	753	537	607
July 23-----	637	464	710	514	224	332	602	707	499	591	---	698	537	279	723	450	650	446	746	---	482	639	646	358	528	622	622	703	419	701	741	---	579
July 24-----	542	692	538	307	296	455	390	645	688	260	---	645	612	709	472	570	509	366	736	701	642	411	286	715	367	620	640	741	574	573	778	---	660
July 25-----	658	---	503	375	351	626	546	593	707	273	---	717	618	727	459	736	584	662	735	822	667	334	193	700	748	605	685	759	438	436	287	---	365
July 26-----	669	551	217	199	407	558	344	209	756	589	520	705	---	697	661	683	654	593	719	812	536	678	581	711	(748)	526	687	747	428	673	723	---	720
July 27-----	659	(319)	162	709	355	545	477	198	622	530	481	672	617	115	556	558	653	523	713	731	406	523	382	391	773	150	705	736	665	390	771	---	463
July 28-----	134	732	141	695	373	504	464	283	603	121	139	317	672	712	707	560	635	166	707	814	450	115	550	674	783	72	675	727	626	701	726	---	730
July 29-----	125	643	462	455	309	462	372	588	649	600	661	469	---	702	401	687	618	439	714	794	707	655	330	594	774	381	674	(736)	410	704	734	606	653
Averages------	489	(567)	390	465	331	497	457	460	646	423	450	603	611	563	568	606	615	456	724	779	556	479	424	592	(675)	425	670	(736)	509	597	680	---	596
July 30-----	420	(756)	416	368	326	462	326	688	686	610	606	608	(331)	601	468	683	625	515	709	802	565	672	491	757	768	502	643	733	582	825	680	554	655
July 31-----	166	792	540	398	305	481	528	685	722	616	627	534	571	407	687	671	617	531	713	789	597	681	599	714	513	530	(608)	719	396	707	715	331	713
Aug. 1-----	414	512	324	466	473	518	472	511	684	590	569	356	569	389	599	660	500	446	726	762	610	628	607	650	637	591	634	697	534	524	722	435	671
Aug. 2-----	438	740	187	556	653	605	494	651	695	541	515	604	556	559	636	697	608	587	701	775	609	604	687	642	679	391	571	683	400	692	704	360	697
Aug. 3-----	377	688	260	583	534	614	236	619	713	629	525	678	632	704	496	659	634	550	692	843	492	708	542	588	464	210	441	674	614	748	540	479	704
Aug. 4-----	606	694	184	693	666	438	538	432	700	447	354	372	547	689	520	672	448	526	700	686	634	590	476	585	324	367	513	682	529	689	550	390	703
Aug. 5-----	609	---	92	699	662	609	571	637	578	564	434	589	572	388	461	642	464	468	514	(713)	348	621	510	574	390	477	632	(159)	559	658	548	318	706
Averages------	433	(697)	286	538	517	533	452	603	683	571	519	534	(540)	534	552	669	557	518	679	(767)	551	644	559	644	539	438	(578)	(621)	516	692	637	410	693

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued JULY 1955

1955	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lander, Wyo.	Lake Charles, La.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Lincoln, Nebr.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.
July 2-----	697	699	832	470	849	482	791	430	790	513	790	711	529	402	346	569	528	317	606	701	652	553	615	727	528	805	470	735	706	445	(278)	625	(778)
July 3-----	498	594	727	689	887	769	813	(326)	813	691	721	716	360	485	439	704	---	737	739	551	617	683	725	701	723	813	628	400	566	579	386	543	623
July 4-----	607	685	762	464	879	754	833	468	832	630	707	599	307	575	557	654	---	681	606	646	593	690	699	724	622	795	566	743	512	618	721	542	(773)
July 5-----	520	400	813	443	873	572	836	523	819	536	706	671	486	699	711	500	---	586	148	---	429	656	662	529	(551)	794	585	546	567	774	486	630	(786)
July 6-----	533	537	833	569	879	414	837	700	833	323	655	562	600	699	706	488	401	---	232	693	526	409	450	678	(534)	791	209	609	294	779	710	686	825
July 7-----	445	614	448	420	869	679	841	716	816	665	623	534	645	726	727	685	453	741	504	650	461	547	516	400	729	818	733	779	653	769	248	611	813
July 8-----	405	528	620	492	858	615	771	534	802	590	232	530	676	679	676	544	---	---	559	627	620	642	589	334	688	814	706	786	505	761	722	632	(792)
Averages------	529	579	719	507	871	612	817	(528)	815	523	634	617	515	609	595	592	---	612	485	645	557	597	608	585	(625)	804	557	657	543	675	(507)	610	(770)
July 9-----	643	355	626	477	861	624	771	582	811	526	558	693	682	600	624	461	---	653	628	696	574	685	669	497	594	816	694	640	292	765	740	373	(800)
July 10-----	431	474	712	666	799	724	[illegible]	680	673	351	819	713	664	532	552	616	---	722	643	493	682	325	406	643	622	791	615	476	530	749	460	454	---
July 11-----	303	438	718	734	841	777	[illegible]	586	782	711	639	692	666	512	627	683	---	741	400	576	614	586	738	568	773	766	723	601	593	653	448	698	(747)
July 12-----	166	536	595	716	821	771	837	488	773	716	782	686	618	547	620	709	671	717	557	551	387	724	745	255	764	716	717	694	708	691	708	429	(692)
July 13-----	252	262	617	651	807	765	829	177	756	709	718	595	437	630	705	(695)	317	695	164	485	423	614	644	552	628	564	568	765	699	671	468	537	(734)
July 14-----	537	469	749	447	583	595	789	149	544	288	621	657	308	542	522	693	195	701	697	551	444	646	635	423	602	743	547	757	668	689	446	622	---
July 15-----	572	722	715	454	785	545	811	343	685	676	267	651	552	733	703	565	180	698	735	421	291	551	574	---	351	701	391	746	582	745	301	685	(708)
Averages------	415	465	676	592	785	686	724	429	718	568	658	670	561	585	622	(632)	341	704	546	539	488	590	630	490	619	728	608	668	582	709	510	543	(737)
July 16-----	631	739	782	564	814	427	814	395	737	519	578	675	521	746	740	305	405	---	662	387	398	131	346	482	251	672	198	665	646	763	495	634	(760)
July 17-----	621	520	603	518	820	560	817	330	718	563	529	563	347	732	707	374	682	747	316	504	526	589	704	727	421	668	603	686	718	711	680	629	(783)
July 18-----	679	602	788	217	815	536	812	349	547	595	395	577	426	723	693	617	705	740	428	236	613	583	592	---	555	733	571	758	718	511	654	644	(796)
July 19-----	607	697	341	397	798	785	799	533	700	636	371	526	668	432	402	544	650	718	500	158	550	592	698	---	732	740	568	685	716	603	692	642	(740)
July 20-----	462	526	510	370	712	783	705	608	483	635	754	602	659	683	631	657	671	703	343	623	499	521	458	449	683	746	671	689	707	708	590	516	(646)
July 21-----	688	443	686	617	---	708	584	615	688	685	618	585	260	683	674	631	684	683	178	619	467	651	685	---	563	725	654	601	701	695	625	625	(650)
July 22-----	620	520	735	581	780	692	629	345	664	369	631	425	601	677	679	579	670	671	670	687	418	640	628	382	593	677	619	706	665	700	595	712	(654)
Averages------	616	578	635	466	790	642	737	454	648	592	554	565	497	668	647	530	638	710	443	459	496	530	587	510	543	709	555	684	696	670	619	629	(718)
July 23-----	624	505	(790)	322	715	443	461	354	636	280	651	552	636	420	645	342	676	682	239	669	518	594	574	524	487	684	557	251	596	618	547	561	(683)
July 24-----	516	383	798	455	500	636	472	512	611	626	411	695	442	497	620	713	673	650	635	590	529	349	328	498	739	233	383	570	668	477	683	718	(653)
July 25-----	568	401	(501)	621	818	760	506	590	681	639	569	653	656	460	541	655	571	673	652	528	517	181	580	495	573	385	640	576	642	668	701	622	(631)
July 26-----	540	533	(764)	620	844	743	754	526	765	674	527	658	654	675	669	617	380	194	476	563	618	604	407	581	656	745	676	544	150	720	(710)	556	771
July 27-----	452	626	771	581	846	341	758	233	759	687	306	684	622	587	686	639	320	690	575	258	585	538	578	638	85	749	429	549	507	730	(310)	656	(768)
July 28-----	511	592	724	547	820	233	760	651	759	554	374	543	594	657	694	528	472	710	417	562	587	45	190	577	751	739	500	443	644	747	(668)	540	(743)
July 29-----	293	478	---	489	830	719	806	580	740	600	521	672	543	637	677	426	656	693	473	646	603	636	195	632	719	678	675	714	581	730	(701)	632	(728)
Averages------	501	503	(725)	519	768	553	645	492	707	580	480	637	593	562	648	560	536	613	495	545	565	421	407	564	573	602	551	521	541	670	(617)	612	(711)
July 30-----	416	510	(768)	580	820	688	793	216	674	416	---	665	582	588	643	507	600	699	338	---	589	645	322	580	654	700	660	736	624	689	(669)	689	(722)
July 31-----	442	527	749	534	709	632	620	532	317	471	---	577	591	664	686	300	657	690	504	---	432	665	483	556	502	678	670	694	648	581	(649)	426	678
Aug. 1-----	603	434	752	462	668	471	592	601	456	553	---	467	589	574	607	629	597	705	417	663	512	605	562	584	598	709	528	493	670	666	(486)	516	(682)
Aug. 2-----	665	698	800	495	708	712	756	516	652	---	---	637	280	676	660	497	219	692	461	551	484	552	653	621	582	580	619	482	676	664	(241)	446	693
Aug. 3-----	566	694	719	399	703	587	729	72	296	---	---	656	426	431	529	507	121	701	553	641	590	669	623	619	639	737	697	591	678	278	(493)	488	(707)
Aug. 4-----	612	368	717	578	569	472	602	663	403	---	---	629	628	222	258	606	301	673	534	491	418	427	400	589	437	662	689	609	667	215	(388)	651	(340)
Aug. 5-----	337	615	708	622	591	565	568	300	644	---	---	530	634	653	579	426	387	648	620	632	541	588	496	611	414	---	498	686	653	671	(601)	615	629
Averages------	520	550	(745)	524	681	590	666	414	492	---	---	595	533	544	566	496	412	687	490	595	509	593	506	594	547	678	623	613	659	538	(504)	547	(636)

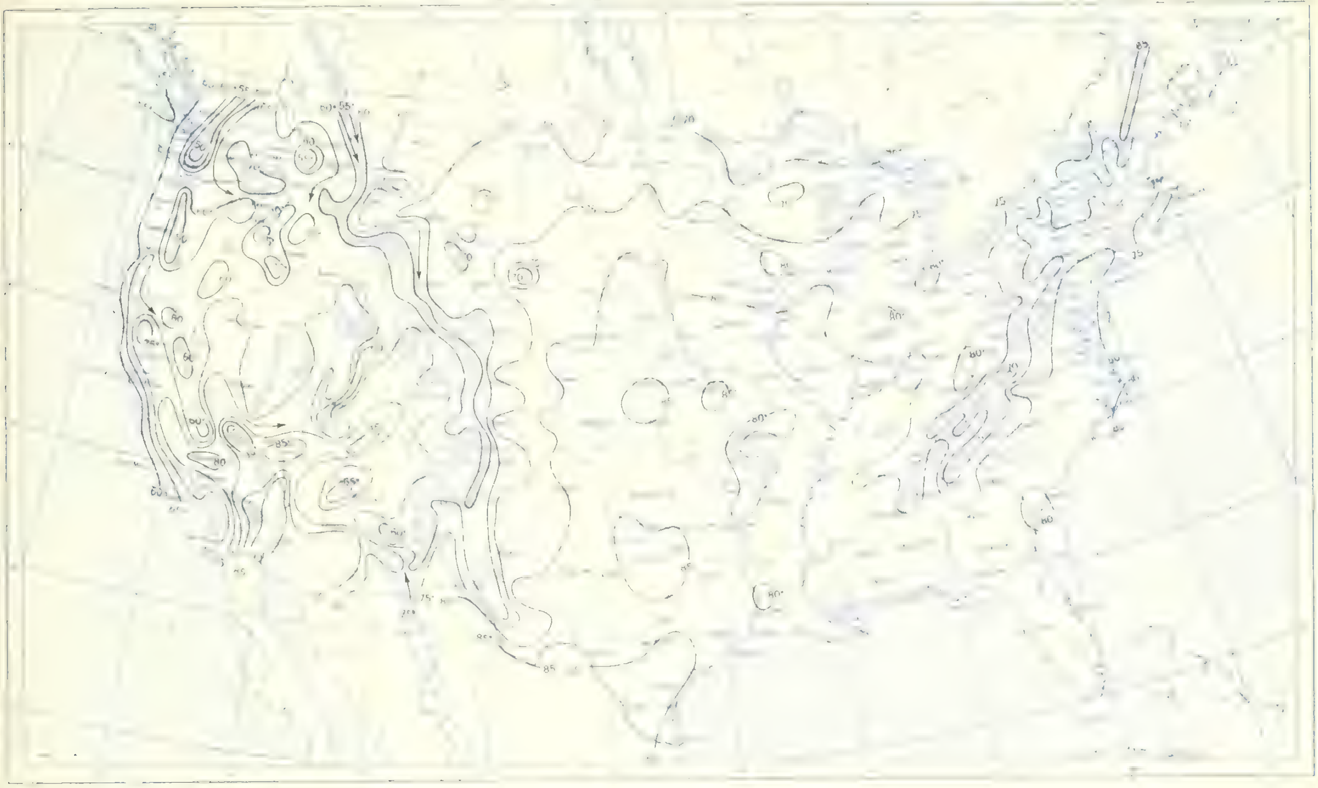
Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued

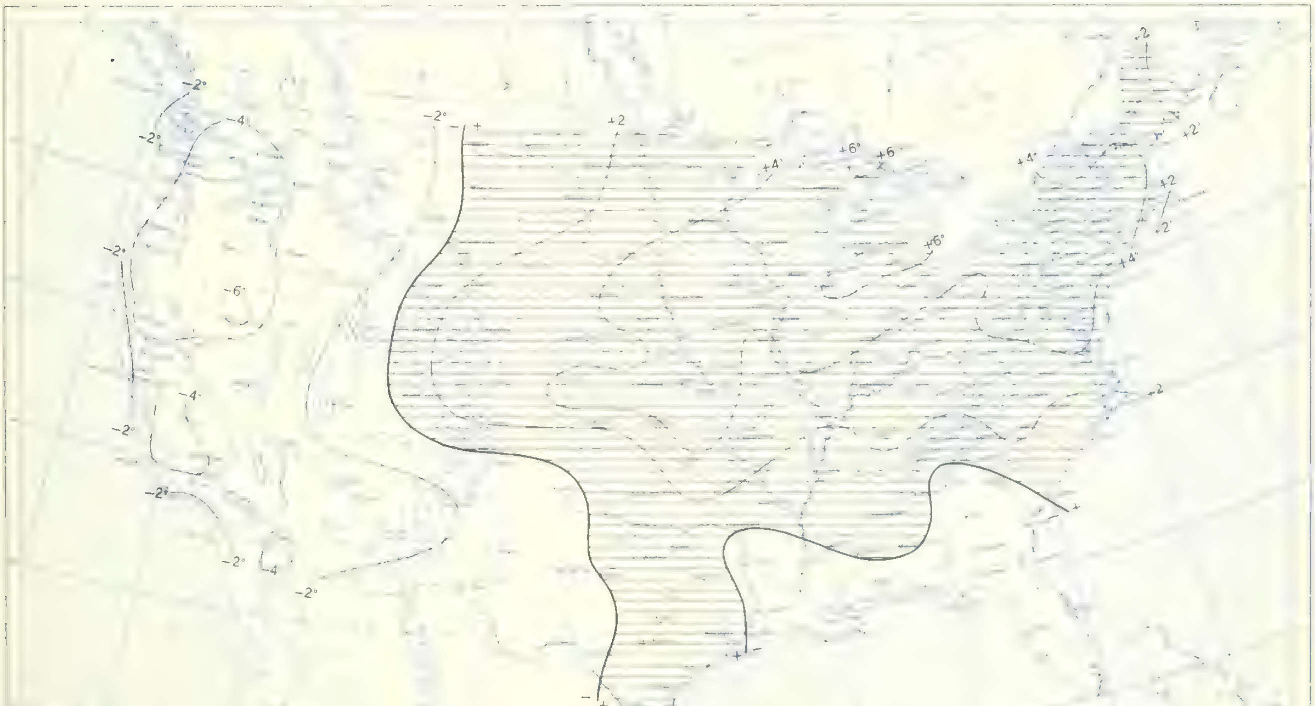
	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Toronto, Ontario	Tucson, Ariz. (U. of A.)	Upton, N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
1955																	
July 2-----	677	687	398	525	371	427	521	491	721	535	516	593	774	624	683	656	643
July 3-----	638	743	603	633	196	213	638	658	743	50	682	706	---	728	627	566	778
July 4-----	678	723	600	657	314	364	505	660	---	369	613	648	---	702	537	592	698
July 5-----	349	682	564	---	624	678	751	519	470	390	496	572	725	691	687	511	648
July 6-----	724	616	339	---	251	312	545	254	762	607	530	(590)	733	585	691	486	271
July 7-----	701	560	645	476	292	307	699	539	731	373	716	636	745	589	669	564	597
July 8-----	475	695	603	566	368	406	601	338	714	574	374	534	757	695	667	253	495
Averages------	606	672	536	571	345	387	608	495	690	414	561	(611)	747	659	652	518	590
July 9-----	758	721	386	537	146	156	665	490	716	127	611	593	748	703	(603)	368	798
July 10-----	820	491	542	409	161	206	382	557	747	592	378	741	733	515	688	469	413
July 11-----	825	689	661	---	367	471	642	713	657	352	375	713	637	648	707	368	660
July 12-----	844	740	659	---	705	650	782	727	608	394	471	747	652	709	713	547	570
July 13-----	806	705	575	---	697	(699)	776	640	679	(361)	594	724	526	658	689	706	271
July 14-----	759	705	548	657	661	(686)	744	589	664	559	610	668	481	683	691	662	693
July 15-----	301	(607)	430	606	673	657	482	530	710	176	561	269	622	601	681	632	630
Averages------	730	(665)	543	552	487	(504)	639	606	683	(366)	515	636	628	645	(682)	536	576
July 16-----	234	246	394	498	221	263	676	581	457	603	538	519	548	185	669	538	695
July 17-----	638	645	498	667	635	(737)	788	583	401	604	412	476	369	603	705	575	547
July 18-----	679	605	510	508	478	(667)	853	385	562	538	467	630	678	648	576	592	667
July 19-----	680	727	579	516	598	(669)	717	476	328	575	654	737	583	719	668	410	706
July 20-----	692	463	618	603	606	---	787	697	749	630	521	674	584	368	697	574	705
July 21-----	620	687	550	---	602	710	763	664	727	661	301	653	684	---	622	607	554
July 22-----	515	629	561	625	503	522	695	627	---	692	650	630	584	---	718	637	732
Averages------	580	572	530	569	520	(595)	754	573	537	615	506	617	576	505	665	562	658
July 23-----	698	612	426	582	515	524	659	575	---	(607)	676	532	501	(579)	693	532	686
July 24-----	---	313	459	285	232	275	705	320	---	649	417	666	322	---	549	326	705
July 25-----	(720)	286	556	469	269	392	730	634	---	655	382	664	326	315	676	514	652
July 26-----	447	618	607	540	223	285	352	632	720	657	671	631	640	592	641	602	476
July 27-----	374	505	376	---	193	(441)	496	449	685	(520)	624	298	707	582	681	613	495
July 28-----	752	---	287	---	253	384	722	314	702	254	413	668	435	97	716	474	252
July 29-----	608	260	581	---	239	317	307	494	670	---	331	706	399	357	695	144	497
Averages------	(600)	432	470	469	275	(374)	567	488	694	(557)	502	595	476	(420)	665	458	538
July 30-----	304	394	607	274	98	145	523	486	631	(464)	527	598	540	441	677	352	703
July 31-----	522	475	651	378	227	305	704	507	608	(516)	204	514	416	563	709	433	680
Aug. 1-----	693	635	464	530	427	449	748	563	593	629	602	565	596	597	499	654	638
Aug. 2-----	576	609	475	507	529	500	663	614	---	624	673	600	682	---	---	612	643
Aug. 3-----	388	701	508	585	430	580	751	428	(399)	578	609	495	505	---	742	637	444
Aug. 4-----	451	377	440	444	572	(665)	746	239	391	688	451	337	521	---	696	592	637
Aug. 5-----	505	389	491	550	563	(655)	730	538	---	639	518	456	688	608	715	366	618
Averages------	491	511	519	467	407	(471)	695	482	(524)	(591)	512	509	564	552	673	521	623

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated

Chart I. A. Average Temperature (°F.) at Surface, July 1955.

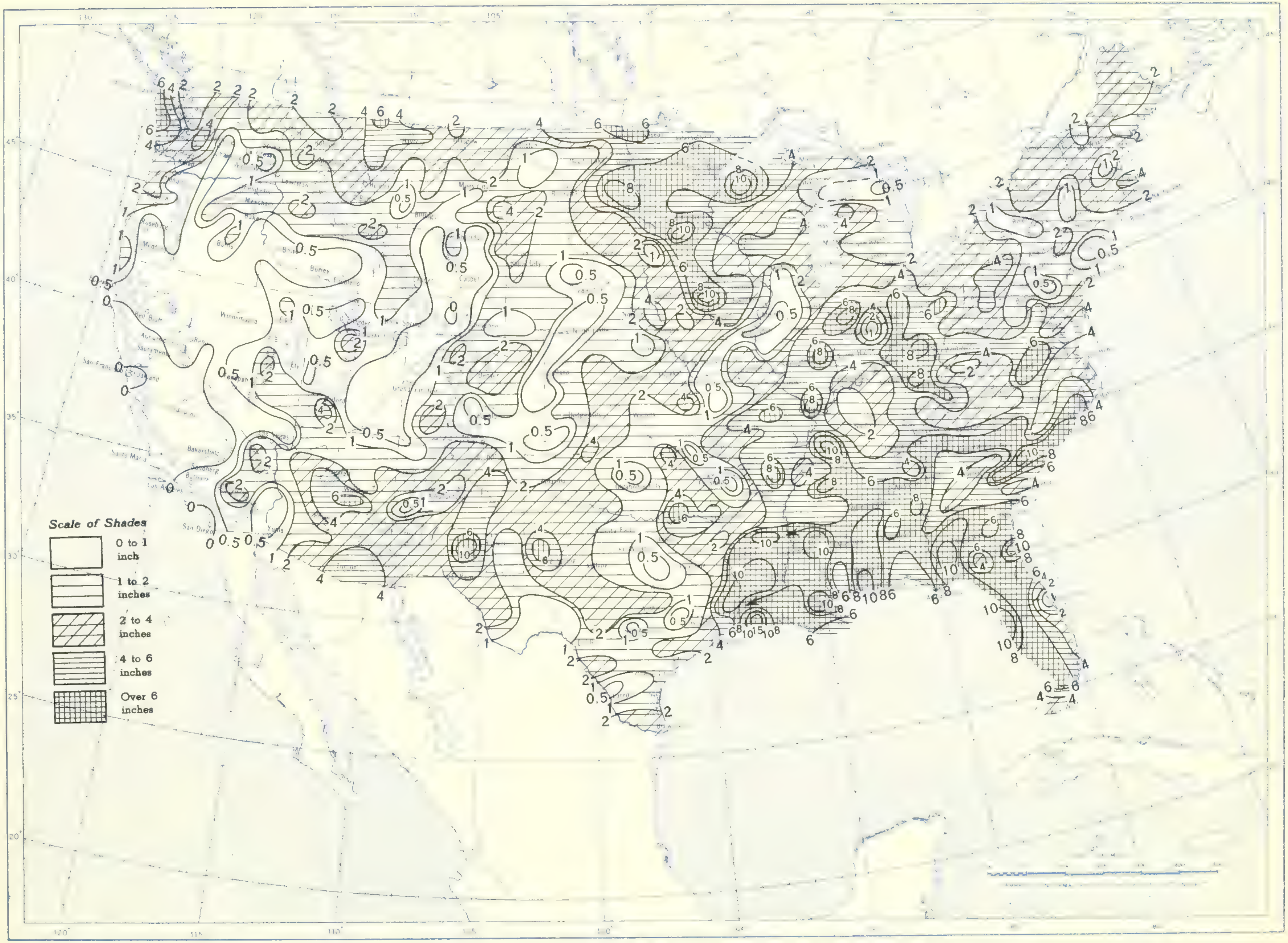


B. Departure of Average Temperature from Normal (°F.), July 1955.



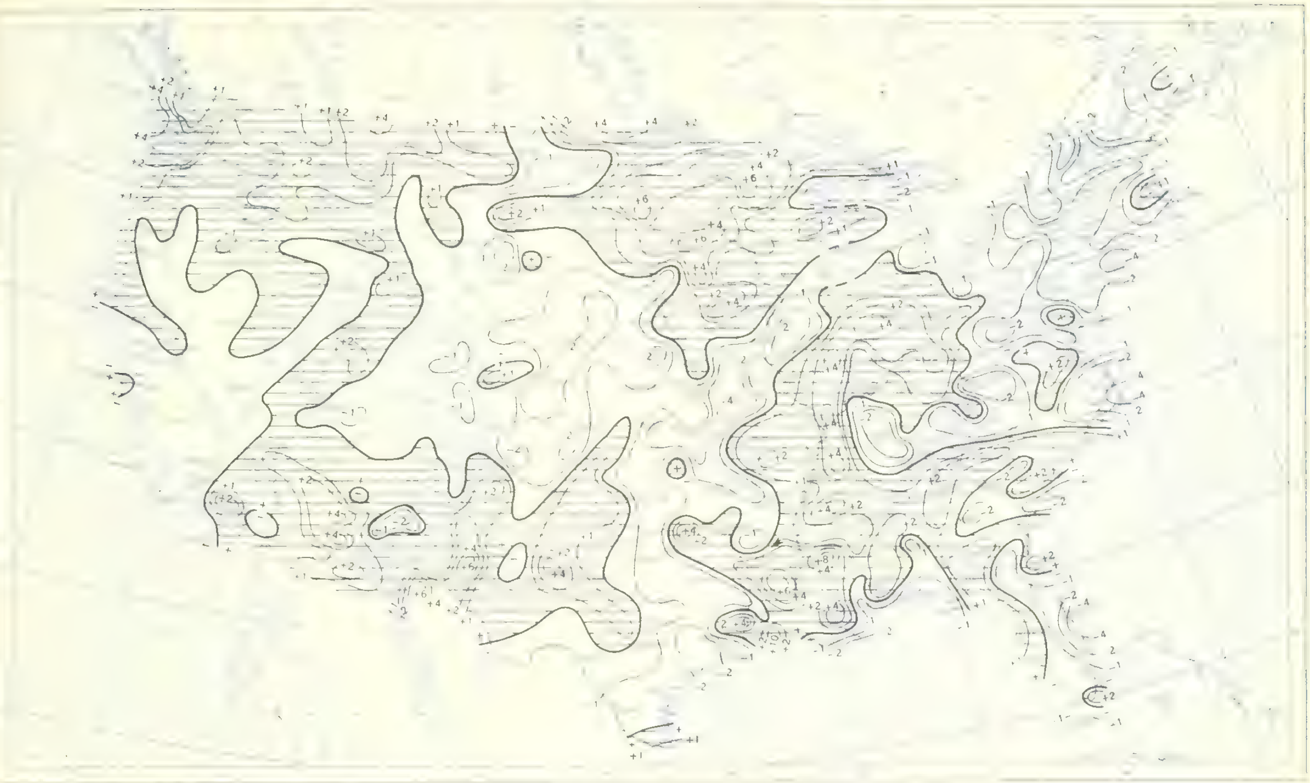
A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), July 1955.

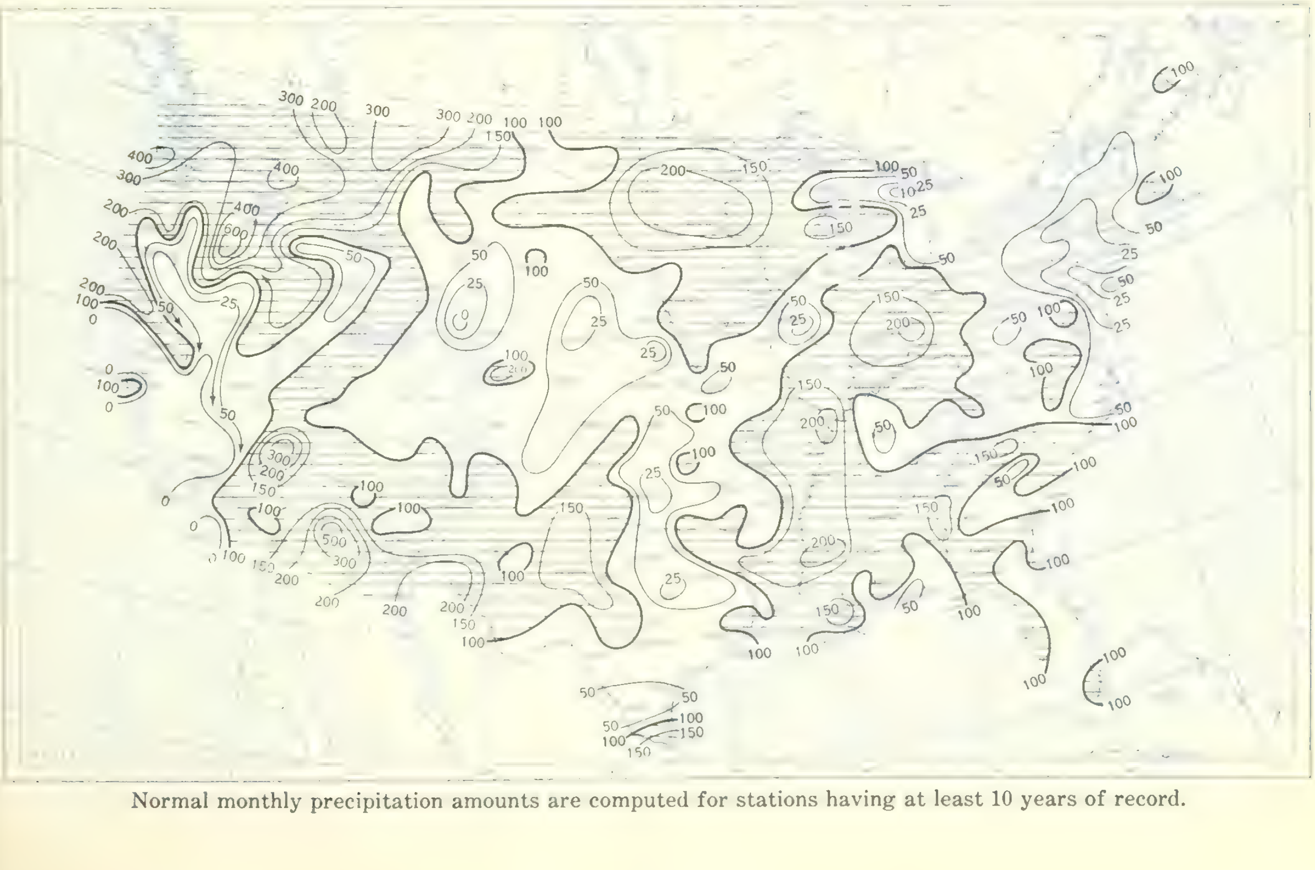


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), July 1955.

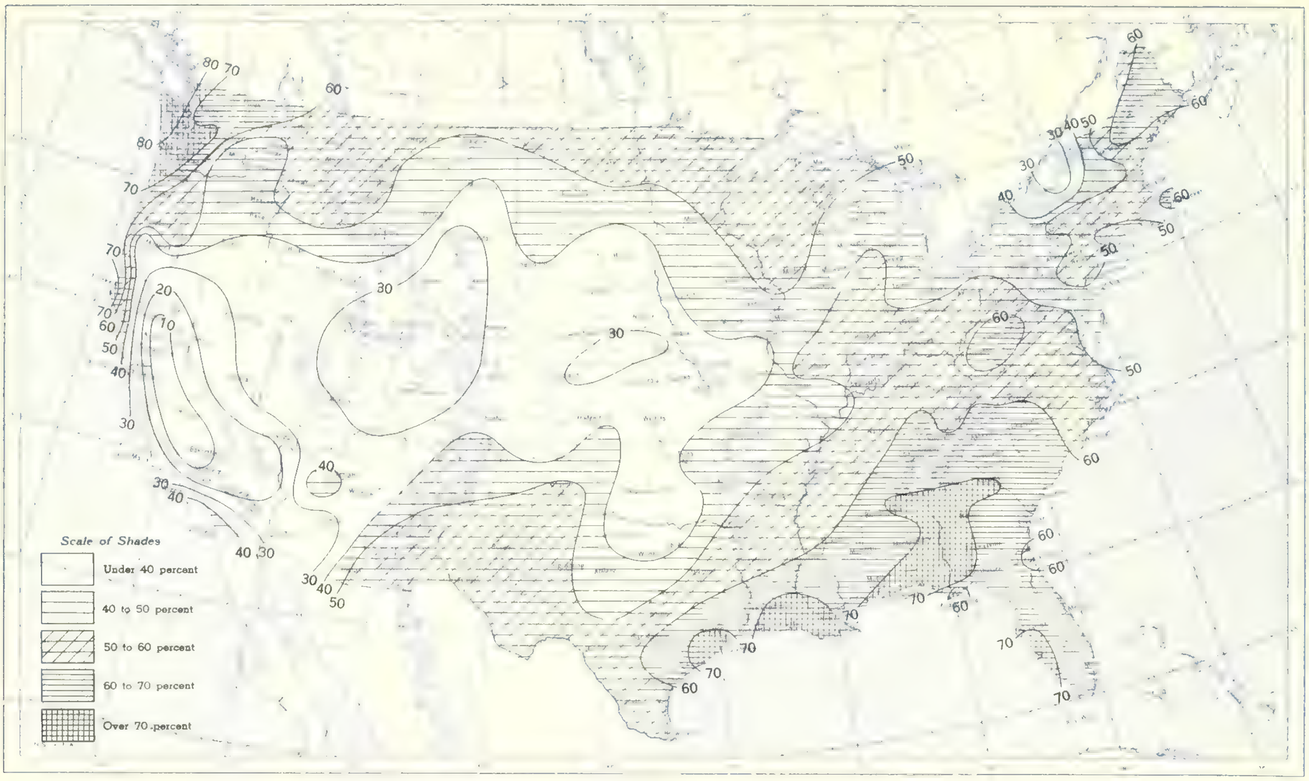


B. Percentage of Normal Precipitation, July 1955.

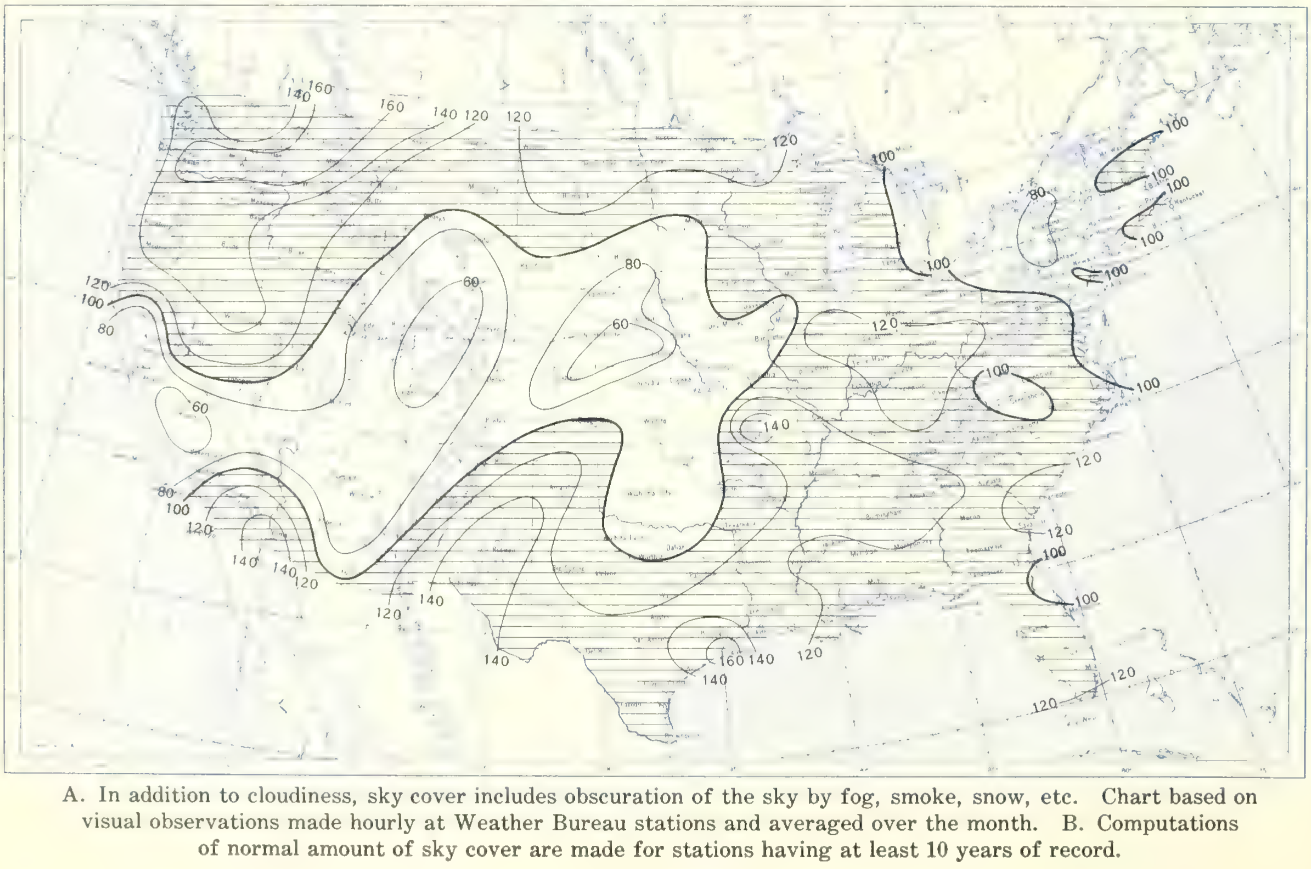


Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, July 1955.

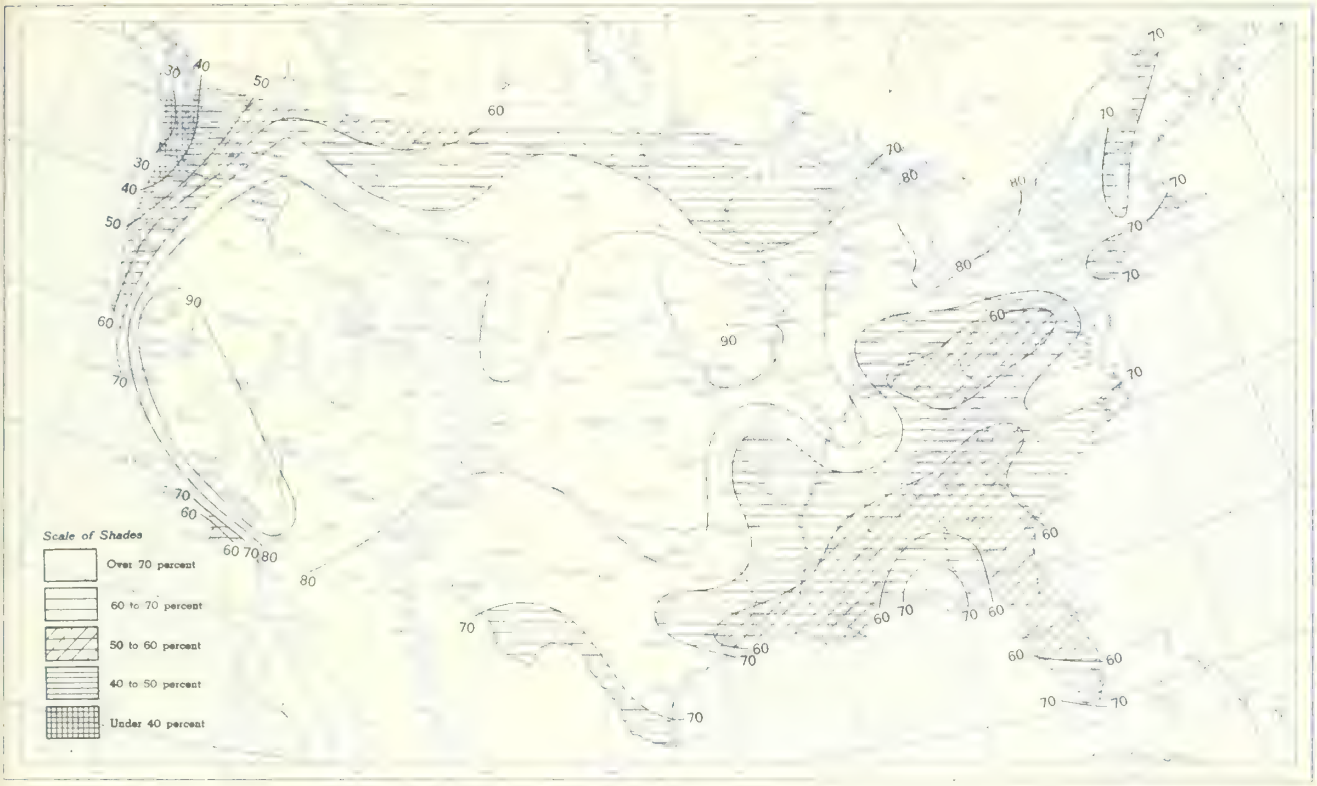


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, July 1955.

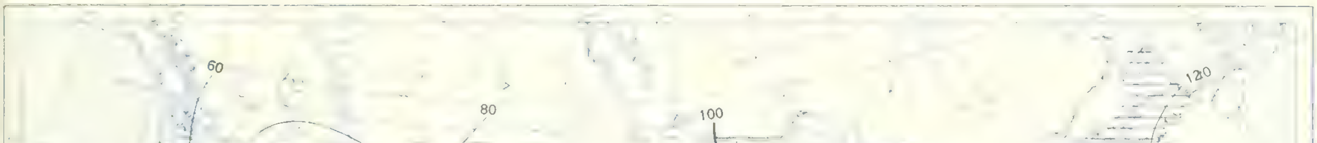


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, July 1955.

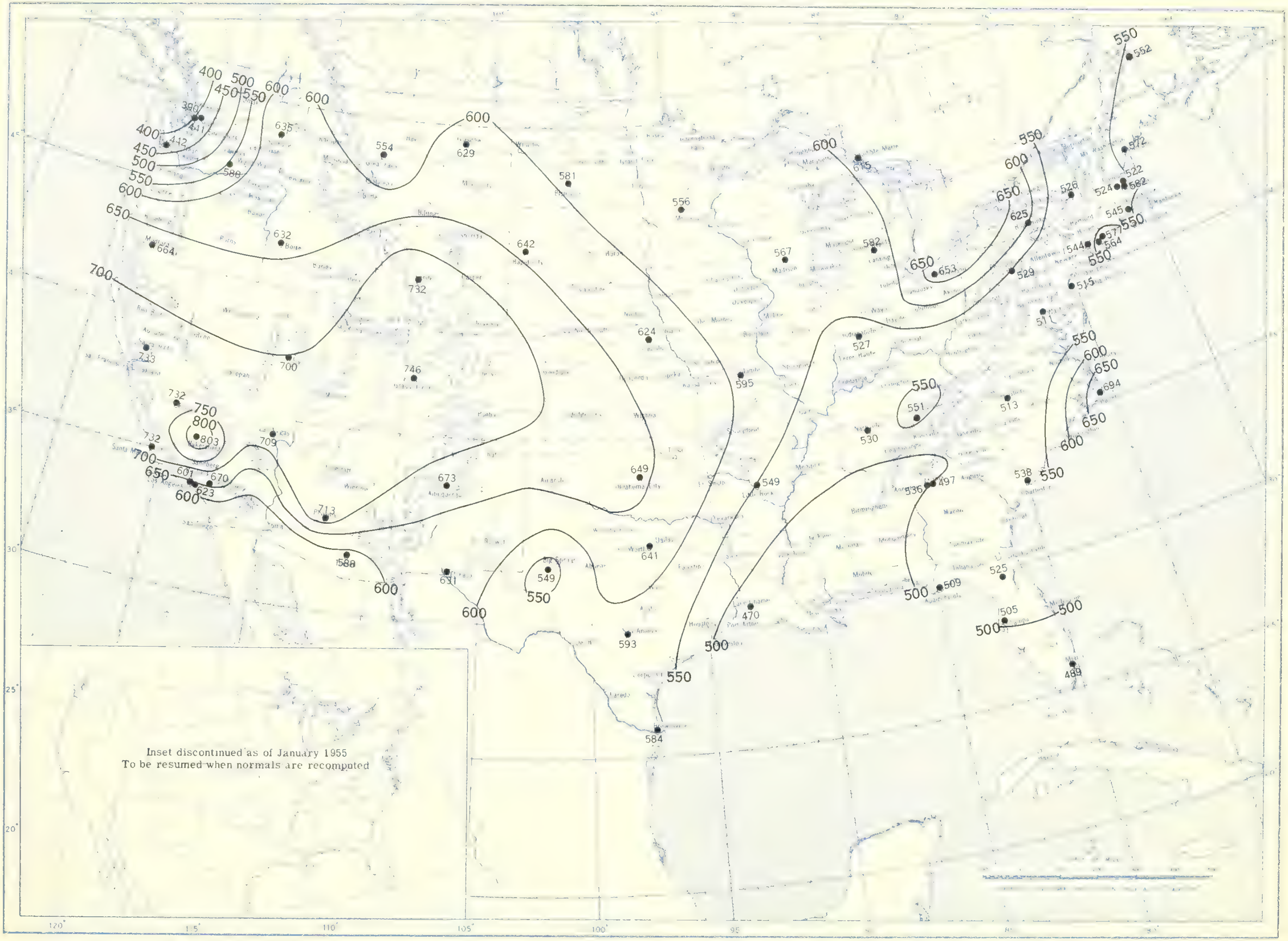


B. Percentage of Normal Sunshine, July 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

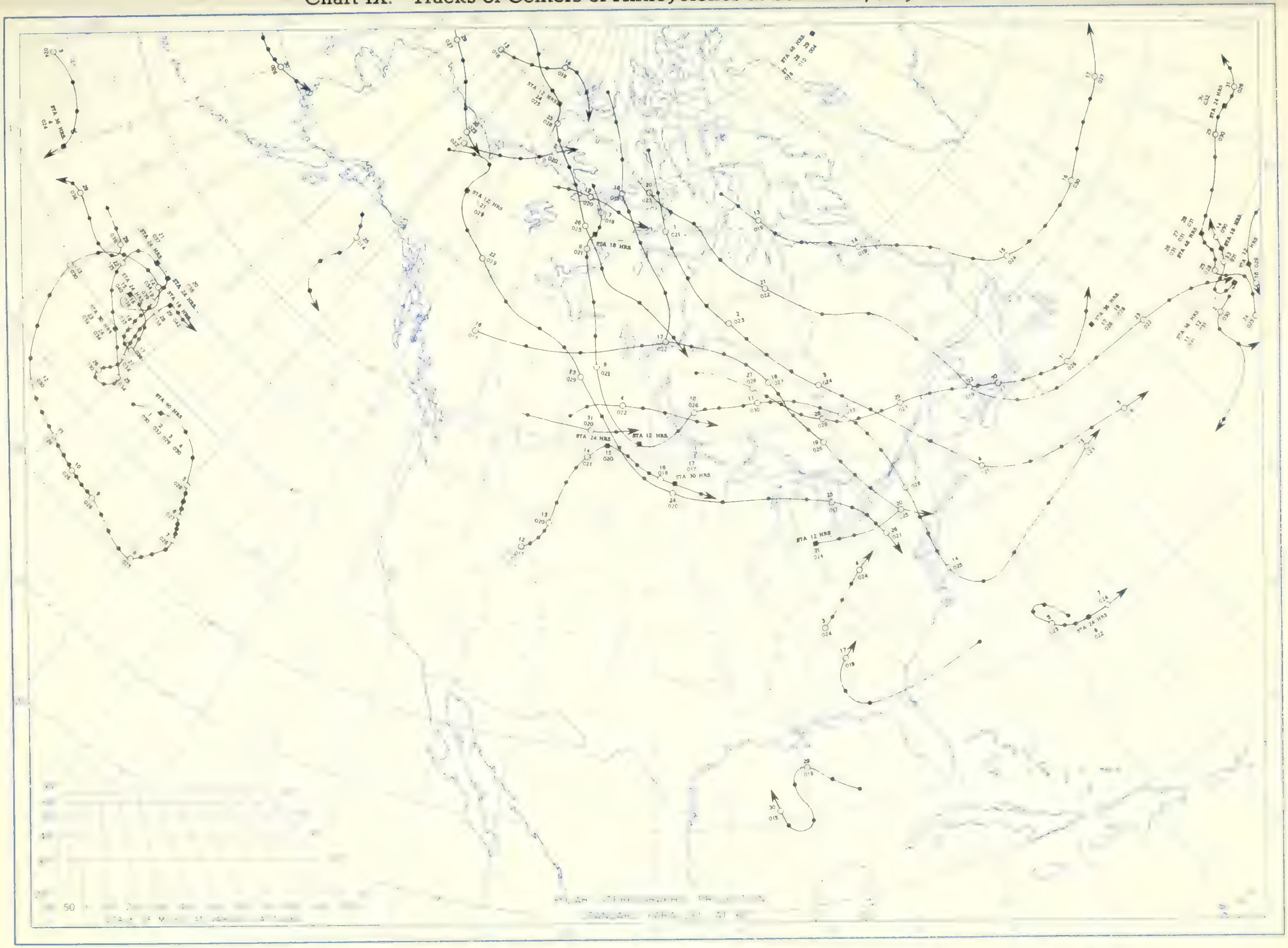
Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, July 1955. Inset: Percentage of Normal Average Daily Solar Radiation.



Inset discontinued as of January 1955
To be resumed when normals are recomputed

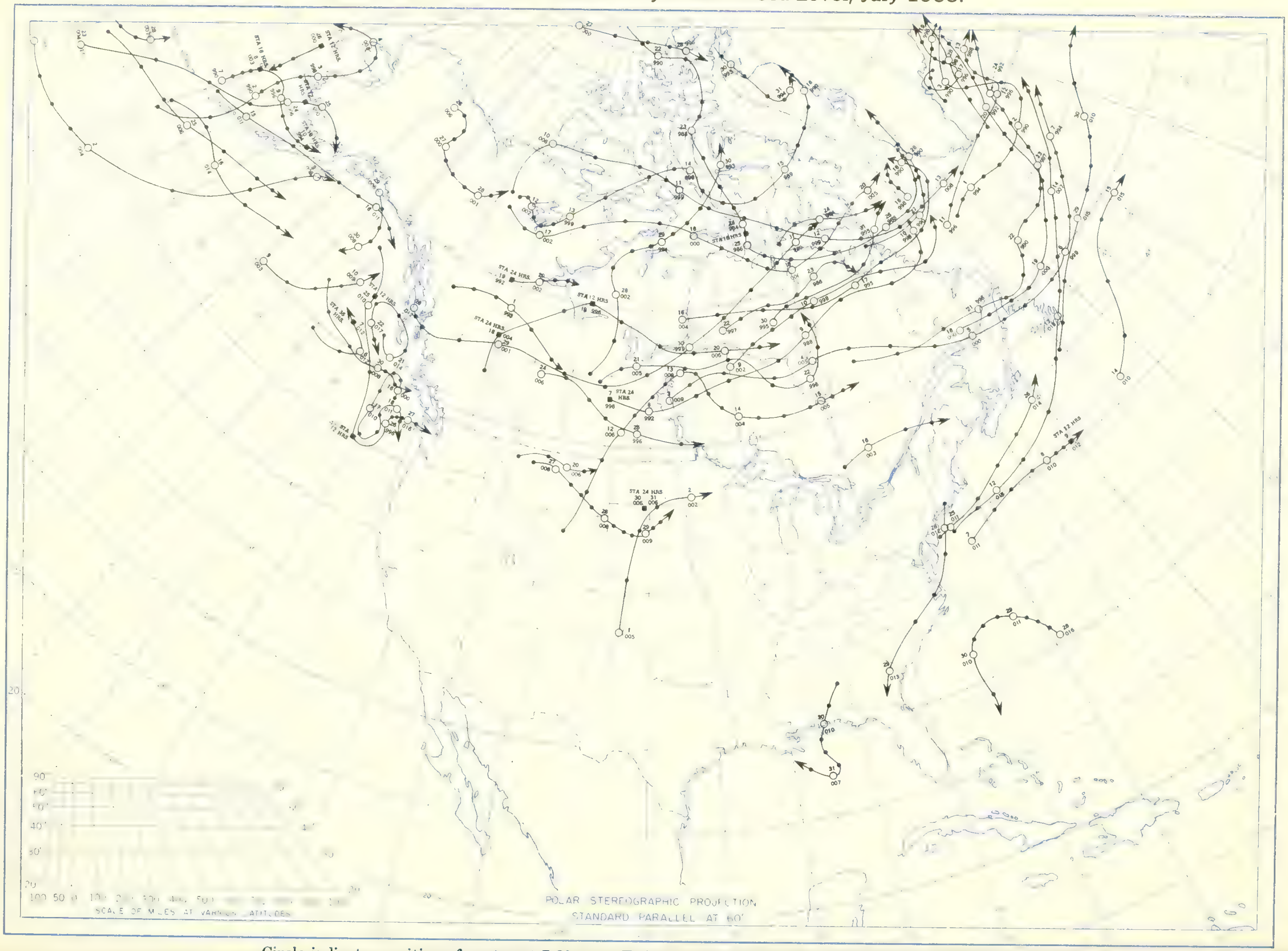
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$). Basic data for isolines are shown on chart. Further estimates are obtained from supplementary data for which limits

Chart IX. Tracks of Centers of Anticyclones at Sea Level, July 1935.



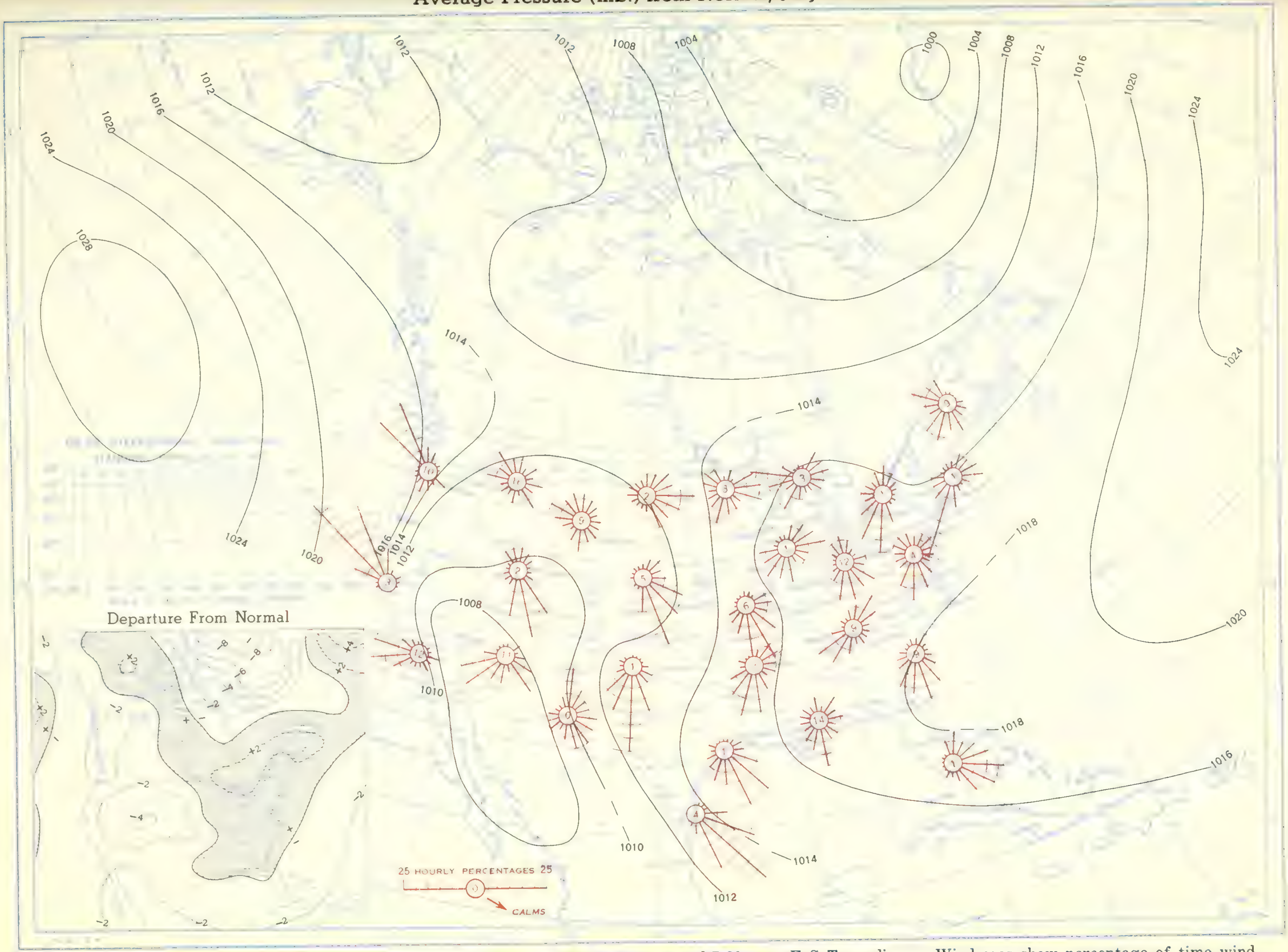
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, July 1955.


POLAR STEREOGRAPHIC PROJECTION
STANDARD PARALLEL AT 60°
SCALE OF MILES AT VARIOUS LATITUDES
STA 12 HRS
STA 24 HRS
STA 18 HRS
STA 36 HRS

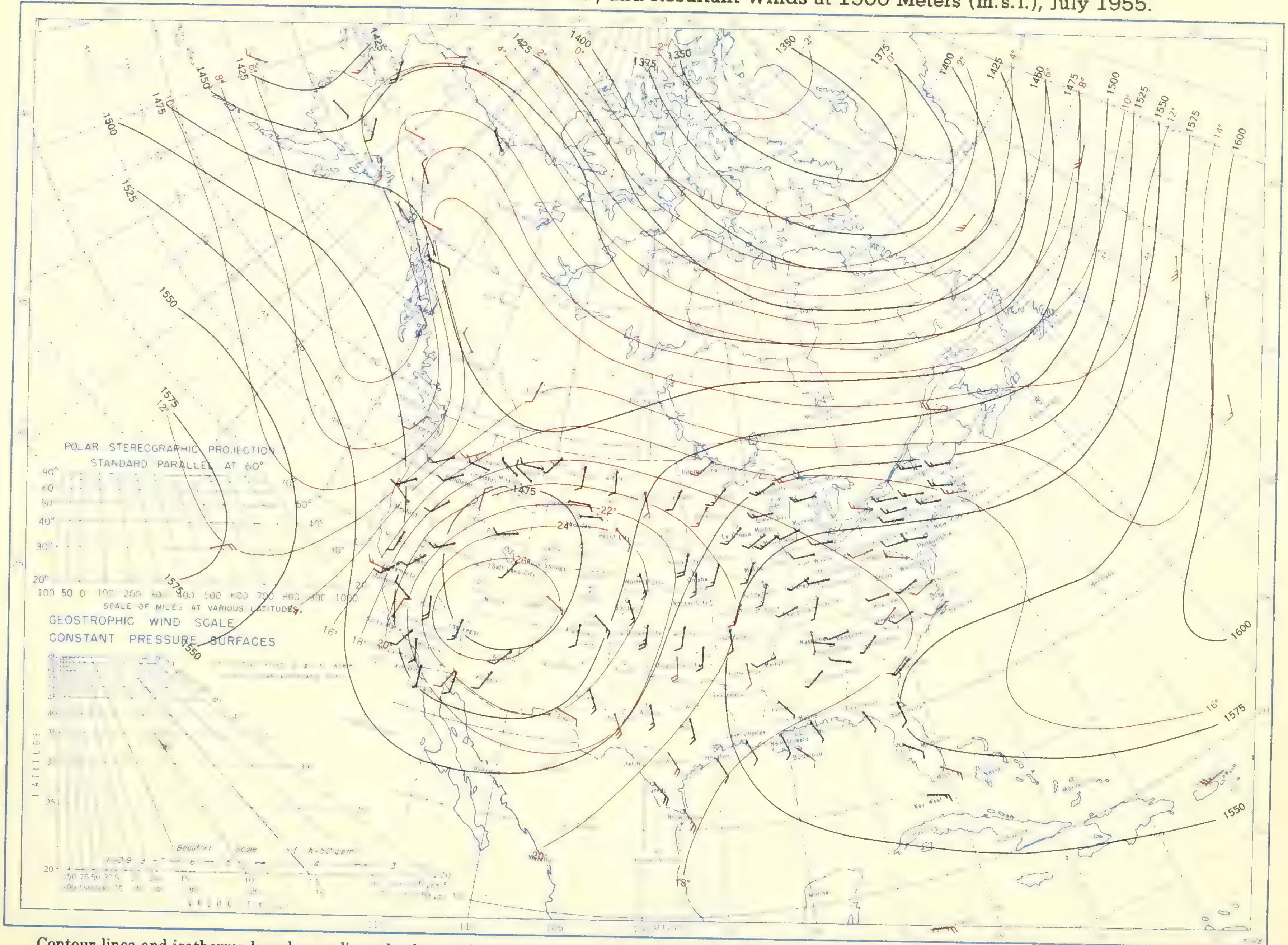
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Average Pressure (mb.) from Normal, July 1955.



Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

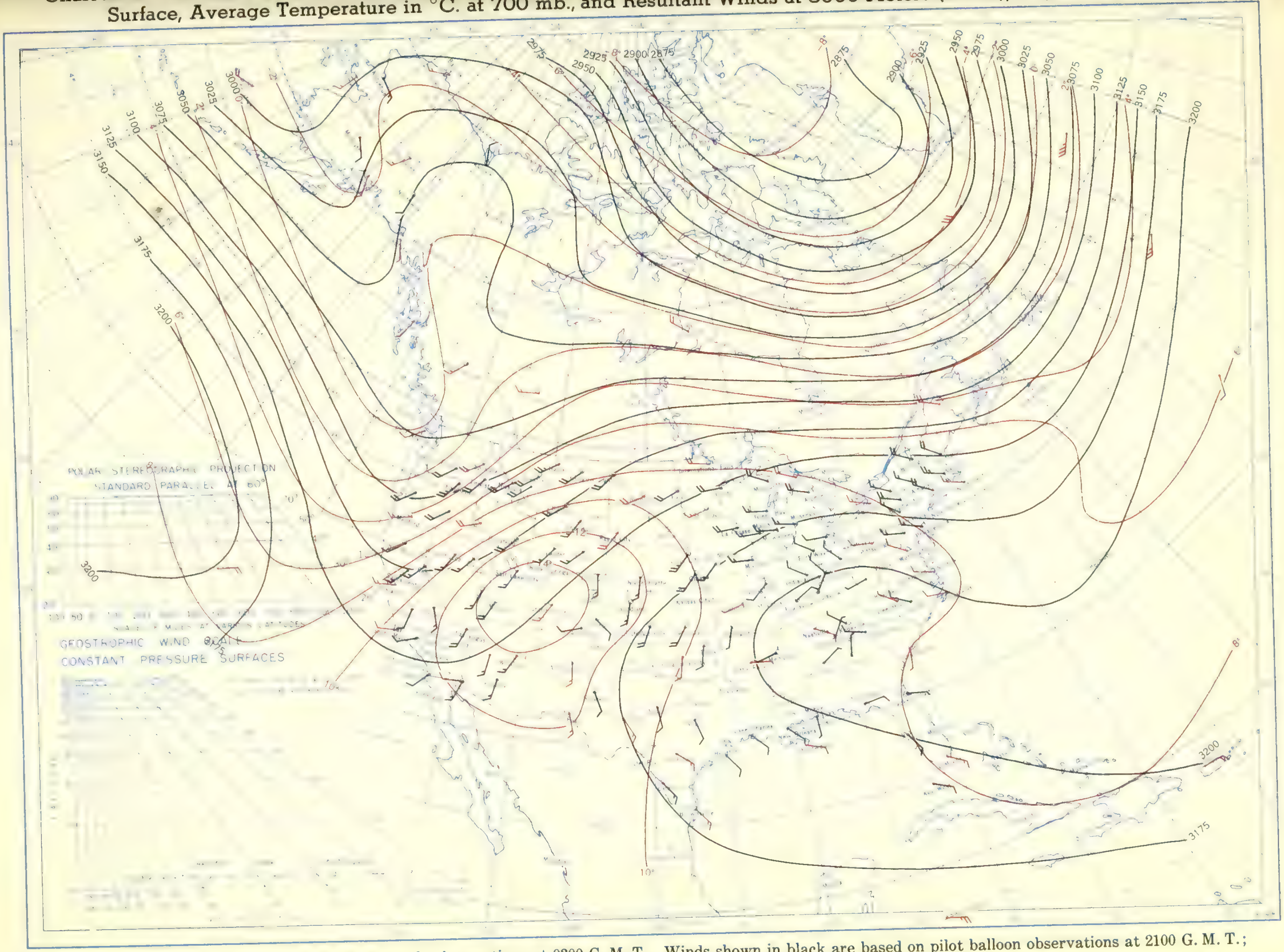
Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), July 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based

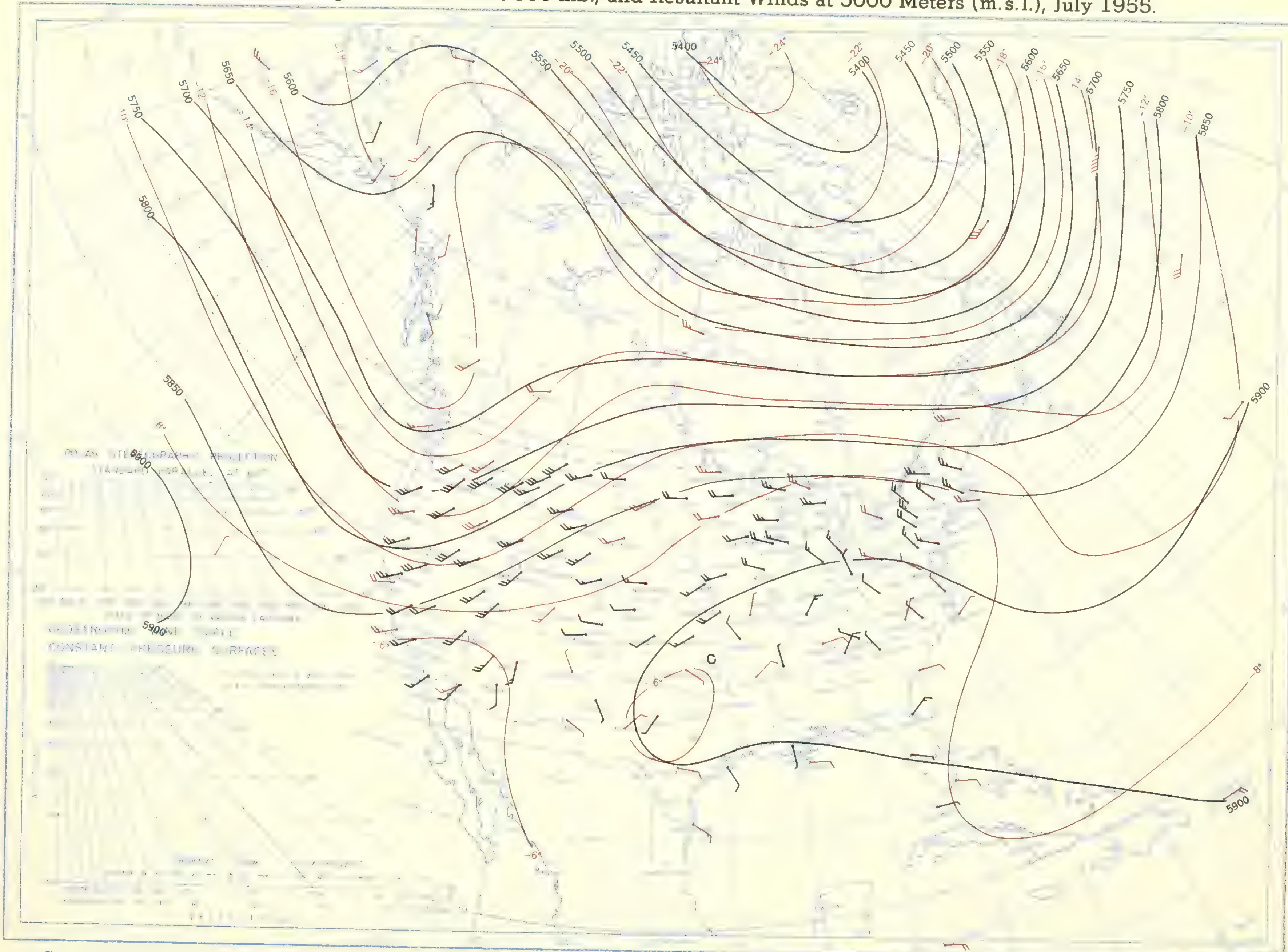
Chart XIII. Average Dynamic Height in Geop

Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), July 1955.



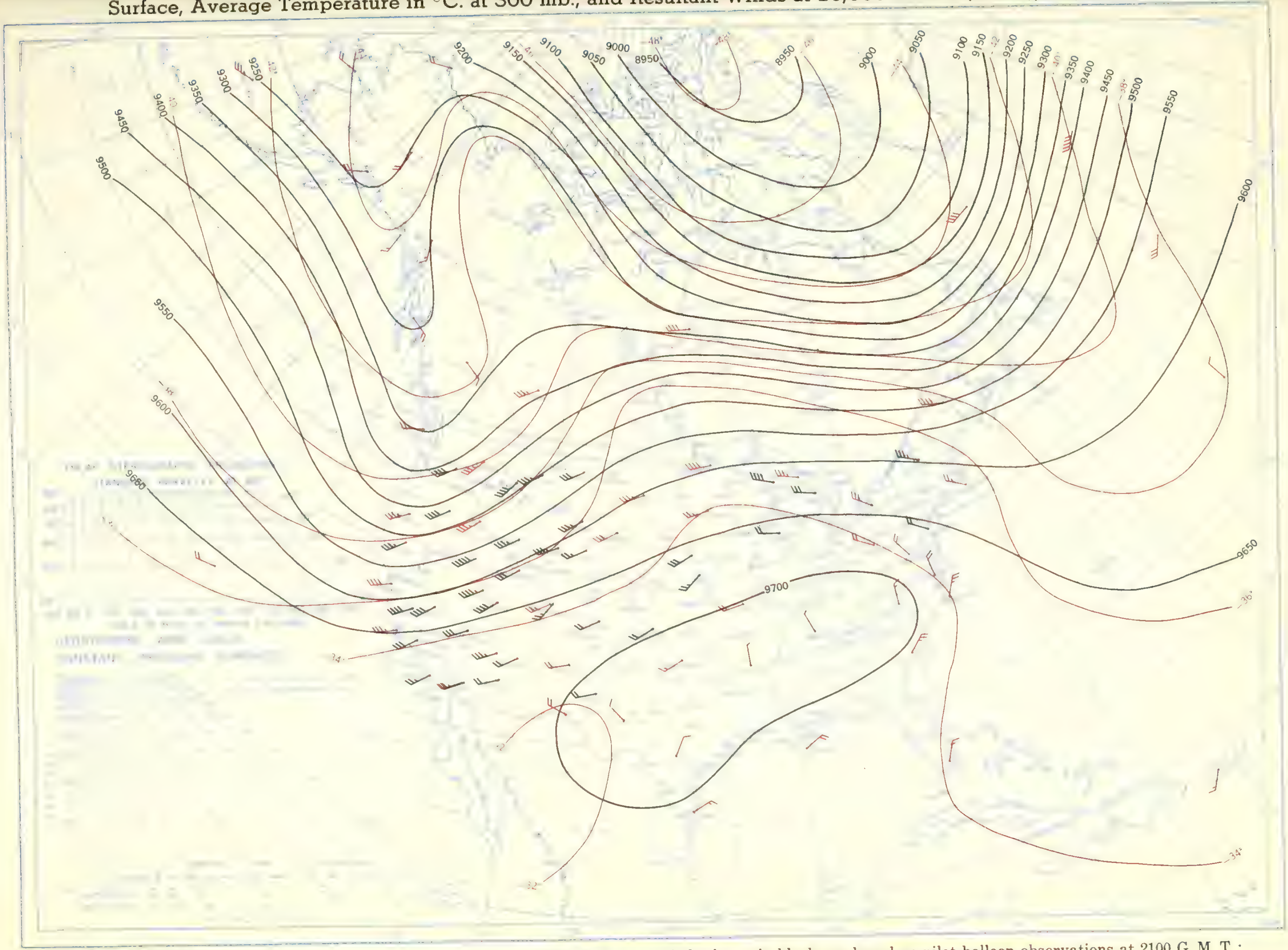
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), July 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XV. Average Dynamic Height in Geopotential Meters (1 g.p.m.
Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), July 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

AUGUST 1955
Volume 6 No. 8

ASHEVILLE: 1955

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CHARTS I-XV

NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

olume 6 No. 8 AUGUST 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

Tropical storms and disastrous floods along the ast Coast were the month's weather highlights. ther important features included a persisting eat wave in the northern half of the Country ast of the Rockies, hot, dry weather in central reas sufficient to cause a decline of most growng crops, generous showers in the far Southwest, ecord dryness in the Pacific Northwest.

TEMPERATURE.--Temperatures for August averaged lightly below normal in Texas, Louisiana, Arkanas, Oklahoma, and southern portions of New Mexico nd Arizona, well below along the middle and north acific Coast, and above normal elsewhere.

The heat wave in northern areas east of the ockies which began during the latter part of uly persisted through August, except for slight reaks in the second week and during the closing ays. New York State and New Jersey had their ottest August on record, North Dakota its second ottest, and Virginia its hottest since 1900. At ome stations August averages were the highest on ecord, and at many others the highest since 1947, nother hot August.

In the far West temperatures averaged above ormal, except along the coast, and statewide verages for California and Nevada were above ormal for the first time since November 1954, nd for Idaho and Utah the first time since Deember 1954.

A heat wave developed in the far West at the lose of the month, and on the 31st San Diego and os Angeles, Calif., recorded 98°, new August ecords for both stations. Extreme temperatures or the month ranged from 122° at Greenland Ranch, alif., on the 3d to 17° at Fremont, Oreg., on the 5th.

PRECIPITATION.--August precipitation was above ormal in central and lower portions of the Rocky ountain region, central Minnesota and northwestrn Wisconsin, in a large northeastern area bounded y lines joining Peoria, Ill., with Alpena, Mich., nd Wilmington, N. C., and in another area extendng southward from eastern Oklahoma and extreme estern Arkansas, and along the central Gulf Coast. reatest deficiencies (less than 25 percent of ormal) occurred in the far West and northern ocky Mountain region, south-central Nebraska, orth-central Kansas, southern Missouri, and a arge portion of the Gulf States from Louisiana astward.

Hurricanes Connie and Diane were responsible for eavy rains in Atlantic coastal areas from North arolina northward, with falls of over 10 inches eing recorded during the passage of each storm. onthly totals, mainly as a result of these heavy ains, ranged up to 27.45 inches at Burlington, onn., and exceeded 20 inches at one or more stations in Massachusetts, New York, Pennsylvania, Virginia, and North Carolina. This was the wettest month on record in New Jersey where monthly totals ranged from 4.56 to 17.99 inches and the statewide average was 11.85 inches. These rains caused disastrous floods in parts of Massachusetts, Connecticut, Rhode Island, New Jersey, New York, and Pennsylvania, but replenished soil moisture and water supplies which were becoming seriously short as a result of previous dry weather.

Most of the heavy rain in the Gulf areas, including parts of Texas, Louisiana, Mississippi, Alabama, Georgia, and northwestern Florida, fell when tropical storms moved inland near the mouth of the Mississippi River - Brenda on the 1st and Gladys on the 27th.

In the far Southwest thunderstorm activity, more extensive than in July, furnished beneficial rains in Arizona, New Mexico, and parts of Colorado, Utah, Nevada, and southern California. In Arizona thunderstorms were a daily occurrence at some points, and Tucson measured an all-time monthly record of 7.93 inches.

In the Pacific Northwest and northern Rocky Mountain region the month was unusually dry. Statewide averages for Oregon, Washington, and Montana were the lowest of record for August. The dry weather favored harvesting operations, but the soil was too dry for fall seeding in Montana.

In the central Interior from the central Great Plains and lower Ohio Valley northward deficient rainfall and high temperatures caused crops to decline, particularly corn and soybeans, but, except in local areas, good production was still expected owing to the extended benefits of subsoil moisture built up during the spring and early summer.

DESTRUCTIVE STORMS.--Most of the storm damage during August was caused by tropical storms either directly by winds and heavy rains or indirectly by high tides and floods. Hurricanes Connie and Diane hit the North Carolina coast on the 12th and 17th respectively, winds and high tides of both storms causing heavy damage along the coast of that State. Floods resulting from the combined rainfall of these two storms were responsible for the greatest disaster on record in the Northeast. Damage in New England alone was estimated at $1,500,000,000.

Numerous flash floods in the Rocky Mountain region were responsible for several hundred thousand dollars damage in both Utah and Arizona, and one near Brush, Colo., on the 10th caused damage estimated at $1,000,000. The month's worst hailstorm caused $1,000,000 damage near Powell, Wyo., on the 10th.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1 AUGUST 1

Section	Temperature									Precipitation					
			Monthly extremes									Monthly extremes			
	Average	Departure from normal	Station	Highest	Date	Station	Lowest	Date	Average	Departure from normal	Station	Greatest	Station	Lea
	°F.	°F.		°F.			°F.		In.	In.		In		In
Alabama	80.6	0.8	5 Stations	100	21+	Valley Head 3S	57	14	3.05	-1.48	Mobile WB AP	10.88	Jasper	0.
Arizona	77.1	-1.2	2 Stations	112	3+	Alpine	38	31	3.46	1.35	Mount Lemmon	11.71	Lees Ferry	.
Arkansas	79.4	-1.1	4 Stations	102	7+	Lead Hill	49	13	2.66	-.87	Langley	8.38	Burdette	.
California	75.6	1.1	Greenland Ranch	122	3	Boca	24	26	.22	.07	Warner Springs	5.26	308 Stations	.
Colorado	68.3	2.4	Julesburg	109	25	Fraser	20	30	2.47	.57	Genoa	6.50	Kit Carson	.
Connecticut	73.1	4.0	2 Stations	101	5	Putnam	40	29	15.06	10.76	Burlington	27.45	New London	7.
Delaware	77.6	3.2	do	101	2+	Georgetown 5SW	54	26	11.07	6.13	Newark College Farm	14.00	Selbyville	8.
Florida	82.3	.8	6 Stations	99	10+	2 Stations	61	3+	5.49	-1.57	St. Petersburg	15.10	Live Oak 2ESE	.
Georgia	80.8	.9	Camilla	101	22+	Blairsville Exp. Sta.	57	28+	3.06	-2.14	Folkston 9SW	7.93	Montezuma 1NE	.
Idaho	68.1	1.5	Kooskia	108	30	Atlanta	19	20	.41	-.17	Malad	3.69	33 Stations	.
Illinois	77.5	2.9	2 Stations	102	21+	2 Stations	48	31	2.56	-.80	Chicago University	6.60	Lawrenceville	.
Indiana	76.5	2.8	do	102	21+	Greensburg 3SW	45	15	2.68	-.64	Ogden Dunes	8.68	Newberry Hwy St. Br.	.
Iowa	77.2	4.6	Missouri Valley	109	27	2 Stations	42	12+	1.79	-1.97	Eldora	6.13	Cherokee 3N	.
Kansas	80.2	1.9	Kirwin	109	27	3 Stations	41	31	1.62	-1.49	Burlington	6.30	Rexford	.
Kentucky	78.0	2.2	Murray	101	21	Clermont 1SSE	48	31	2.28	-1.38	Monticello	7.15	Uniontown Dam 49	.
Louisiana	81.1	-1.2	Rayne 6N	104	22	Converse	56	15	6.56	2.07	Evans	15.25	Monroe Dam 4	.
Maine	68.0	2.8	Madison	102	5	Presque Isle	38	25	4.71	1.42	Bridgton 1NNW	8.12	Machias	2.
Maryland	77.0	3.5	Ocean City	106	2	Cumberland Pol. Bks.	42	24	12.42	7.86	Baltimore WB AP	18.35	Ocean City	4.
Massachusetts	72.3	3.6	2 Stations	101	5+	West Cummington	35	29	13.31	9.48	Westfield	26.85	Edgartown	4.
Michigan	72.6	5.5	Greenville	104	19	Vanderbilt Trout Sta.	35	8	3.67	.74	Lowell 5NW	7.33	Suttons Bay	.
Minnesota	72.0	4.8	Tracy Power Plant	104	1	Itasca State Park Sch.	36	31	3.36	.08	Ottertail	9.58	Leonard 8NE	.
Mississippi	80.4	-.5	Monticello	101	7+	Houston	58	15	3.50	-.54	Van Cleave	16.57	Brooksville Exp. Sta.	.
Missouri	78.3	1.8	Conception	104	27	2 Stations	42	31	2.69	-1.09	Carrollton	11.55	Fremont Tower	.
Montana	67.9	1.9	Plevna	108	14	3 Stations	25	27+	.21	-.90	Lakeview	2.02	32 Stations	.
Nebraska	78.3	4.8	Westpoint	111	25	Mullen 21NW	37	31	1.29	-1.43	Harrisburg 10NW	4.30	Wellfleet 8NE	.
Nevada	73.3	1.8	Overton	113	3	Mountain City	25	30	.85	.35	Adaven	5.84	14 Stations	.
New Hampshire	69.9	4.3	Windham	103	5	Fabyan	31	28	6.89	3.31	Mount Washington	13.14	Bow Garvin Falls	3.
New Jersey	76.7	4.6	Somerville	105	2	Layton 3NW	43	29	11.85	7.03	Canistear Reservoir	21.74	Bass River St.Forest	4.
New Mexico	71.7	-.3	2 Stations	101	4+	Red River	29	31	2.32	-.01	Capulin 6SSE	7.61	Lake Avalon	.
New York	72.3	5.0	Rifton 1N	105	5	Old Forge 2SW	27	28	6.91	3.25	Slide Mountain	21.03	Hooker	1.
North Carolina	77.8	1.4	3 Stations	99	3+	2 Stations	48	26+	9.30	3.72	Maysville 6SW	24.79	Eaglenest Mountain	1.
North Dakota	71.2	4.2	2 Stations	104	12+	do	33	30+	1.69	-.38	Mohall	4.04	Trotters 6WNW	.
Ohio	75.6	3.9	Barnesville Wtr.Wks.	102	[illegible]	Hiram	41	24	3.23	-.10	Marietta Lock I	8.95	Hamilton Water Wks.	.
Oklahoma	81.6	-.3	Altus	108	9	Beaver	48	31	2.92	.00	Flashman Tower	12.02	Hennessey	.
Oregon	65.1	-.5	Illahe 1N	109	6	Fremont	17	25	.01	-.43	Seaside	.36	135 Stations	.
Pennsylvania	74.1	3.8	5 Stations	103	2+	3 Stations	39	24+	9.12	4.97	Mt. Pocono 2N AP	23.66	Union City	2.
Rhode Island	72.2	2.9	2 Stations	95	5	Kingston	41	29	10.21	6.27	Greenville	13.31	Block Island WB AP	6.
South Carolina	80.3	1.3	Pinopolis Dam	104	5	3 Stations	58	25+	4.39	-1.26	Pinopolis Dam	11.44	Greenville WB AP	1.
South Dakota	76.0	4.9	Gregory	111	3	Deerfield Dam	31	30	1.88	-.24	Webster	7.76	Redowl	.
Tennessee	78.7	1.8	2 Stations	100	4+	Dover 1NW	52	31	2.72	-1.18	Cosby	9.19	McKenzie	.
Texas	81.9	-.3	do	112	10	Mount Locke	49	20	2.69	.34	Anahuac 6E	17.22	4 Stations	.
Utah	71.5	1.6	Mexican Hat	104	2	East Portal	30	29	1.72	.60	Modena	6.24	Morgan	T
Vermont	69.2	3.8	Bellow Falls	102	6	Lemington	32	28	7.89	4.31	Essex Junction	12.60	Springfield	3.
Virginia	76.5	2.5	Woodstock	103	3	2 Stations	47	6+	9.56	5.03	Big Meadows	23.88	Bristol TVA	1.
Washington	64.6	-1.4	3 Stations	104	6+	do	30	14+	.10	-.61	Cedar Lake	1.45	92 Stations	.
West Virginia	74.9	3.1	Williamson	104	5	Canaan Valley	41	24	4.80	.70	Stony River Dam	12.00	Iaeger	.
Wisconsin	72.7	5.3	Waupaca	105	21	Long Lake Dam	34	8	2.93	-.51	Goodrich 1WSW	7.53	Readstown	T
Wyoming	68.0	3.4	Redbird	103	3	Bondurant	20	31	1.08	.03	Pine Bluffs	4.84	Heart Mountain	.
Puerto Rico	79.4	.5	Patillas Dam	102	2	Jayuya	55	5	7.86	.63	Rio Blanco (1800)	22.54	Yauco	1.

+ And also on a later date or dates.

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observatio

CLIMATOLOGICAL DATA

able 2

AUGUST 1955

State and station		Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet, Hail		Wind					No. of days (sunrise to sunset)				
												Max. 90° F or above	Min 32° F or below												Fastest mile							
	Elevation	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date			Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover tenths sunrise to sunset	Possible sunshine
	Ft	Mb	Mb	°F	°F	°F	°F	°F		°F				°F	%	In	In	In			In	In	M p h		M p h			0–3	4–7	8–10	0–10	%
ALABAMA																																
rmingham	[illegible]	990.0	1014.7	[illegible]	70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.60	[illegible]	[illegible]	[illegible]	0	5.4	NE	[illegible]	NW	[illegible]	5	22	4	5.1	60
bile	211	1006.0	1013.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.57	4.45	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	5.2	
ntgomery	[illegible]	1006.9	1014.2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.84	[illegible]	[illegible]	[illegible]	[illegible]	0	6.1	[illegible]	31	SE	[illegible]	12	14	5	4.6	[illegible]
ARIZONA																																
agstaff	6993			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			3.73	1.13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]						[illegible]	[illegible]	9	5.8	
oenix	[illegible]	971.6	1009.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.80		[illegible]	[illegible]	[illegible]	.0	[illegible]	[illegible]	E	*[illegible]	S	[illegible]	[illegible]	[illegible]	6	4.9	[illegible]
escott	5014	849.0	1013.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			2.71	[illegible]	.92	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SW	[illegible]	SE	[illegible]	[illegible]	[illegible]	[illegible]	5.9	[illegible]
icson	2558	924.5	1010.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.93	[illegible]	2.31	9	16	T	T	[illegible]	ESE	41	NW	[illegible]+	7	16	8	5.9	72
inslow	[illegible]	852.4	1010.3	90	61	[illegible]	1.9	97	[illegible]	56	[illegible]	[illegible]	0	55	[illegible]	2.30	[illegible]	1.08	[illegible]	18	T	T	[illegible]	WSW	*3[illegible]	ESE	[illegible]	[illegible]	16	4	4.6	[illegible]
uma	[illegible]	1003.7	1008.8	105	79	92.0	1.7	111	[illegible]	74	[illegible]+	31	0	[illegible]	[illegible]	1.31	[illegible]	[illegible]	5	[illegible]	[illegible]	0	[illegible]	SE	[illegible]	S	3+	14	16	1	3.7	80
ARKANSAS																																
ort Smith	458	998.[illegible]	1014.3	[illegible]	[illegible]	80.9	-1.[illegible]	[illegible]	22	[illegible]	31	[illegible]	[illegible]	[illegible]	[illegible]	2.83	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	ENE	[illegible]	NE	[illegible]	[illegible]	11	8	4.8	67
ittle Rock	257	1001.[illegible]	1014.4	[illegible]	[illegible]	81.4	.1	97	21	[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	1.22	1.93	.59	7	7	[illegible]	[illegible]	[illegible]	ENE	[illegible]	E	[illegible]	13	7	11	5.1	62
exarkana	361			[illegible]	[illegible]	80.[illegible]	-2.2	97	22	[illegible]	14	[illegible]	[illegible]	-	-	4.23	1.35	1.82	[illegible]	4	[illegible]	[illegible]		-		-						
CALIFORNIA																																
akersfield	489	992.9	1010.5	100	[illegible]	83.6	1.8	110	[illegible]	[illegible]	[illegible]	31	0	19	[illegible]	[illegible]	[illegible]	.00	0	0	.0	0	[illegible]	NW	*[illegible]	NW	1	26	2	3	1.3	-
ishop	4108	873.4	1011.2	[illegible]	[illegible]	75.8	2.3	104	11	[illegible]	[illegible]	30	[illegible]	--		.22	[illegible]	.13	3	7	.0	0			-	-	-	22	[illegible]	3	2.[illegible]	-
lue Canyon	5280	841.2	1011.5	81	61	70.6	3.3	[illegible]	31	[illegible]	[illegible]+	[illegible]	0	--	-	T	.05	T	0	[illegible]	.0	[illegible]		-		-	-	[illegible]	2	1	1.0	
urbank	699	985.8	1012.0	92	61	78.0	4.4	103	31	[illegible]	[illegible]+	[illegible]	0	[illegible]	[illegible]	.06	.04	.06	[illegible]	0	.0	0	1.6	S	*14	S	[illegible]+	25	1	2	2.0	
ureka CO	43	1014.6	1016.9	57	50	53.4	-3.6	61	[illegible]	47	[illegible]	[illegible]	[illegible]	[illegible]	-	T	.11	T	0	0	.0	[illegible]	6.1	[illegible]	17	SW	1+	2	[illegible]	29	7.9	[illegible]
resno	331	998.6	1010.3	98	63	80.2	.7	104	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	T	.00	T	0	0	.0	[illegible]	5.2	NW	[illegible]	NW	11	25	5	1	1.4	[illegible]
os Angeles CO	312	----	------	86	65	75.2	2.3	101	31	[illegible]	29+	[illegible]	0	60	64	[illegible]	.03	.06	1	1	.0	0	4.9	[illegible]	20	E	31	24	6	1	1.9	[illegible]
os Angeles	99	100[illegible]	1011.7	78	63	70.5	2.3	96	31	59	[illegible]	1	0	60	[illegible]	T	.02	T	0	0	.0	0	6.3	W	*33	SE	31	17	10	4	[illegible]	-
t. Shasta CO	3544	892.3	1014.0	89	46	68.4	2.6	94	11	[illegible]	[illegible]	15	0	-	-	T	.13	T	0	1	0	0					-	28	2	1	.6	
akland	3	1013.5	1013.9	71	53	61.8	1.1	87	[illegible]	[illegible]	[illegible]+	[illegible]	0	51	76	T	.02	T	0	0	.0	0	7.2	WNW	*21	WNW	[illegible]	16	13	2	[illegible]	
ed Bluff	341	998.6	1011.1	99	64	81.3	[illegible]	108	2	55	27	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	.00	0	0	[illegible]	0	[illegible]	SSE	[illegible]	SE	[illegible]	28	2	1	.8	[illegible]
acramento	17	1009.8	1010.8	94	56	74.9	1.7	105	2	49	16+	[illegible]	0	48	46	T	.00	T	0	0	.0	0	8.3	SSW	[illegible]	W	1+	29	1	1	[illegible]	97
andberg	4517	863.5	1011.5	87	66	76.4	2.9	96	30	57	[illegible]	[illegible]	[illegible]	--		T	-.10	T	0	1	.0	0						24	6	1	1.6	
an Diego	19	1008.5	1011.6	79	66	72.4	2.1	[illegible]	31	[illegible]	[illegible]	1	[illegible]	[illegible]	75	[illegible]	[illegible]	[illegible]	1	0	.0	0	[illegible]	NW	22	S	31	15	10	6	4.4	60
an Francisco CO	52	----	-----	62	51	56.4	-2.9	75	[illegible]+	[illegible]	[illegible]+	0	0			T	.01	T	0	0	.0	0	10.7		26	W	[illegible]+	12	14	5	4.4	62
an Francisco	1	1012.9	1013.4	70	50	59.7	-.9	82	[illegible]	45	30	0	0	50	76	T	.01	T	0	0	.0	0	10.2	NW	28	NW	8	26	4	1	2.1	-
anta Maria	238	1004.7	1013.3	71	52	61.2	-1.2	93	31	45	29	1	0	53	80	T	-.03	T	0	1	.0	0	5.4	WNW	*16	NW	25	12	18	1	3.5	
COLORADO																																
lamosa	7538	77[illegible]	1018.8	80	[illegible]	64.3	[illegible]	85	2	[illegible]	31	0	[illegible]		-	1.44	[illegible]	.60	9	12	T	T			-	-	-	7	[illegible]	3	[illegible]	--
olorado Springs	6173	814.8	1015.2	[illegible]	56	70.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	2.46	[illegible]	.76	9	15	T	T	[illegible]	NNW	*[illegible]	ENE	[illegible]+	12	17	2	4.0	-
enver	5292	840.8	1014.1	[illegible]	[illegible]	73.1	1.8	[illegible]	[illegible]+	[illegible]	[illegible]	10	0	[illegible]	33	2.41	[illegible]	1.60	11	11	.0	0	[illegible]	S	33	NW	19	8	16	7	5.0	72
rand Junction	4849	860.8	1013.0	[illegible]	63	76.0	.4	96	[illegible]	56	31	[illegible]	0	49	45	.85	.55	.21	10	11	.0	0	9.4	ESE	45	NW	7	15	12	4	4.1	79
ueblo	4639	858.5	1013.7	89	61	74.9	1.6	98	25	48	31	13	0	55	56	5.85	4.07	2.95	10	10	T	T	7.3	SE	54	NE	15	16	11	4	3.7	78
CONNECTICUT																																
idgeport	7	1015.7		84	68	76.1	4.4	96	2+	53	29	8	0	--	-	9.62	5.19	3.97	13	5	T	T	-					10	11	10	5.5	-
artford	169	1010.3	1016.1	84	64	73.9	2.5	101	5	46	[illegible]	[illegible]	0	64	76	21.87	18.33	12.12	14	6	.0	0	10.4	S	41	NW	[illegible]	9	9	13	6.0	57
ew Haven	6	1015.0	1015.6	83	67	74.7	4.9	95	2	50	[illegible]	[illegible]	0			10.95	6.84	3.18	13	6	.0	0	[illegible]	---	[illegible]	SE	13	8	13	10	5.4	66
DELAWARE																																
ilmington	73	1011.6	1014.9	87	69	77.9	4.1	101	2+	[illegible]	[illegible]	11	0	[illegible]	77	[illegible]	[illegible]	[illegible]	15	9	.0	0	8.7	S	-			5	14	12	6.2	--
DIST. OF COLUMBIA																																
ashington CO	72	-----	-----	87	71	79.1	3.3	100	[illegible]	61	[illegible]	11	0			[illegible]	9.89	[illegible]	[illegible]	4	.0	0	6.2		32	NE	12		--			-
ash. Nat'l. AP	14	1010.[illegible]	1015.2	[illegible]	71	78.3	2.9	[illegible]	[illegible]	62	[illegible]	[illegible]	0	[illegible]	76	14.31	9.56	[illegible]	[illegible]	7	.0	0	10.6	S	49	NE	12	12	7	12	5.6	48
FLORIDA																																
alachicola CO	13	1011.5	1012.7	88	76	82.0	.7	95	11	72	[illegible]	6	0			[illegible]	2.16	[illegible]	[illegible]	17	.0	0	7.1	-	34	SE	10	12	11	[illegible]	4.6	79
aytona Beach	31	1012.2	1013.9	90	73	81.5	.6	97	12	68	[illegible]	15	0	72	78	[illegible]	3.18	.96	9	9	.0	0	[illegible]	NE	*30	NNE	10	6	19	6	5.6	--
ort Myers	15	1013.[illegible]	------	92	73	82.6	.1	95	9	70	2+	30	0	--	--	[illegible]	3.52	.87	[illegible]	11	.0	0	6.5	---	*30	NE	5	4	17	10	5.8	-
acksonville CO	18	------	------	91	74	82.6	1.1	97	12	70	[illegible]	21	0	--		[illegible]	-2.14	1.99	[illegible]		.0	0				--				-		
acksonville	24	1013.9	1014.1	93	73	83.1	1.3	98	12	[illegible]	[illegible]	[illegible]	0	72	[illegible]	[illegible]	-2.58	1.75	8	7	.0	0	8.5	NW	[illegible]	E	24	10	17	4	4.7	53
ey West CO	9	1012.1	1012.8	91	78	84.5	[illegible]	95	[illegible]+	[illegible]	[illegible]+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.11	1.05	[illegible]	[illegible]	[illegible]	0	6.5	[illegible]	[illegible]	SE	18+	4	20	7	5.8	77
akeland CO	214	------	------	91	73	82.4	[illegible]	[illegible]	[illegible]+	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.56	17	[illegible]	[illegible]	0	5.4	[illegible]	[illegible]	[illegible]	[illegible]	4	18	9	6.2	60
iami CO	8	------	------	88	76	82.2	.1	[illegible]	[illegible]+	69	14	10	[illegible]	[illegible]	[illegible]	5.97	.91	1.98	15	11	[illegible]	0	9.6	[illegible]	31	SW	19+	4	22	5	5.2	68
iami	8	1011.9	1013.1	91	75	83.2	.3	96	10	72	14+	22	0	74	79	4.27	-2.34	1.32	14	14	.0	0	8.7	[illegible]	*29	SSW	24	4	24	3	6.3	-
iami Beach	9	------	-----	90	78	84.1	1.1	97	10+	75	15+	11	0		--	3.78	.61	.92	16		.0	0						9	14	8	-	--
rlando	106	1009.7	1014.0	91	73	82.1	.4	[illegible]	16+	65	[illegible]	23	0	73	80	6.65	.22	1.41	15	11	.0	0	7.7	NE	*35	WNW	12	6	20	5	5.5	
ensacola	---	------	------	--	--	----	--	--	--	--				73	[illegible]	---	---	-	-	-	--		7.4									--
ensacola CO	13	1011.5	------	90	75	82.2	1.0	97	[illegible]+	71	3	17	0	-		13.94	6.51	4.69	13	10	.0	0	7.4	[illegible]	30	SE	1+				--	68
allahassee	64	1011.1	1013.7	92	72	81.7	.8	96	19	68	[illegible]	21	0	72	80	3.82	-3.10	2.14	16	13	.0	0	5.2	E	--	----	-	9	14	8	5.3	--
ampa	19	1012.6	1013.9	90	74	81.8	-.2	92	6+	70	2+	18	0	73	81	9.57	1.51	2.84	16	17	.0	0	8.2	W	*30	S	25	7	20	4	5.4	72
est Palm Beach	15	1012.1	1012.9	92	76	83.6	1.4	97	10	71	31	28	0	74	78	2.16	5.24	1.05	14	15	.0	0	9.7	ESE	*38	NW	12	1	20	10	6.6	
GEORGIA																																
thens	798	985.9	------	91	70	80.6	.9	98	18	65	26+	[illegible]	0			2.80	-1.18	1.18	8	16	.0	0			-	--	-	11	14	6	5.0	
tlanta	975	973.8	1014.3	90	71	80.1	1.5	95	19+	67	14+	17	0	[illegible]	74	1.54	2.27	.82	8	7	.0	0	6.5	NW	36	SE	21	11	17	3	5.0	73
ugusta	143	1007.0	1013.5	92	71	81.4	.7	97	19	65	27+	24	0	72	79	2.41	1.69	1.84	8	12	.0	0	5.6	NW	*23	WNW	12	8	16	7	5.3	
olumbus	385	1000.5	1014.5	92	71	81.2	1.0	95	21+	67	2+	26	0	-	-	2.08	2.85	.99	7	9	.0	0	--					7	20	4	4.9	-
acon	356	1000.4	1013.7	93	72	82.6	.9	[illegible]	22	67	28	27	0	71	73	2.91	1.73	.86	9	11	.0	0	6.1	ENE	25	S	6+	11	14	6	4.8	[illegible]
ome	637	991.9	------	93	68	80.4	1.6	97	3+	62	27	[illegible]	0	--	-	2.08	1.81	.94	8	14	.0	0				-		14	14	3	4.1	
avannah	48	1011.0	1013.5	92	71	81.2	.3	98	20	65	28	23	0	73	79	2.86	3.39	1.57	10	8	.0	0	8.4	SE	35	N	11	12	13	6	4.7	73
IDAHO																																
oise	2842	918.1	1011.6	92	58	74.6	2.1	105	30	48	26	22	0	40	30	T	[illegible]	T	0	0	.0	[illegible]	8.3	NW	43	S	7	23	7	1	2.0	95
daho Falls 46W CO	4933	850.0	1014.2	89	48	68.5	1.6	95	1+	[illegible]	29+	16	0			[illegible]	[illegible]	.15	2	5	.0	0	7.3		‡26	SW	3+	--	--		-	--
daho Falls 43NW CO	4790	------	-----	89	47	68.0	2.7	97	1+	36	28+	13	0	--	-	[illegible]	.36	[illegible]	5				5.9		‡24	SSW	3+	-		--	---	--
ewiston	1413	962.8	1013.4	89	54	71.5	-1.6	98	6+	44	26	16	0	-		T	[illegible]	T	0	2	.0	0			-	-		30	0	1	[illegible]	-
ocatello	4444	863.5	1013.1	89	55	72.1	2.0	97	12+	43	[illegible]	[illegible]	0	43	41	[illegible]	[illegible]	.27	4	7	0	0	10.1	S	45	NW	10	16	[illegible]	2	3.1	79
ILLINOIS																																
airo CO	314	1002.4	------	91	72	81.5	2.0	97	5+	62	31	22	0		-	.81	-2.40	.27	7	6	0	0	6.2	[illegible]	22	W	29	16	[illegible]	3	3.8	91
hicago	610	993.2	1015.7	89	69	78.7	6.0	99	21	55	31	17	0	62	59	5.35	2.16	3.11	5	4	0	0	8.2	SW	34	SW	29	15	11	5	4.6	77
oline	589	994.6	1016.6	88	65	76.8	3.8	97	20	54	31	15	0	62	61	2.44	-1.13	1.41	5	5	0	0	6.4	S	26	W	30	14	12	5	4.1	85
eoria	654	993.9	1016.0	89	67	77.8	4.1	96	20+	57	31	16	0	61	58	4.72	1.73	4.32	4	4	.0	0	8.5	-	33	NW	21	15	11	5	4.1	85
pringfield	587	992.9	1015.8	90	66	77.9	3.9	97	20+	54	31	18	0	63	64	3.06	.03	1.92	5	5	.0	0	8.4	SSW	28	W	2	16	7	8	4.2	86
INDIANA																																
vansville	383	1000.0	1015.3	91	66	78.8	2.5	98	21	53	31	19	0	65	[illegible]	1.31	[illegible]	[illegible]	5	3	.0	0	6.4	NNE	31	W	29	21	7	3	3.4	87
ort Wayne	801	985.1	1015.6	88	65	76.3	4.9	96	1+	52	31	15	0	63	[illegible]	4.23	[illegible]	[illegible]	8	3	0	0	9.3	SW	35	SW	30	11	11	9	4.8	74
ndianapolis	793	987.1	1016.3	87	64	75.9	1.9	95	21	54	31	14	0	[illegible]	68	1.21	-2.31	[illegible]	8	6	0	0	7.8	NE	32	W	30	15	9	7	4.6	73
outh Bend	768	988.5	1016.1	87	65	75.7	4.3	96	19	55	[illegible]	11	[illegible]	61	70	6.45	3.20	2.55	[illegible]	[illegible]	0	0	9.1	SSW	*35	WSW	20+	9	14	8	5.0	--

See footnotes at end of table.

CLIMATOLOGICAL DATA

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	
	Ft	Mb	Mb	°F	°F	°F	°F.	°F.		°F				°F.	%	In.	In.	In.			In.	In.	M p. h.		M. p. h.			0–3	4–7	8–10	0–10
IOWA																															
Burlington	694	991.2	1016.6	89	66	77.6	3.2	99	20+	54	14+	15	0	62	63	3.15	-0.16	2.10	6	4	0.0	0	7.9	S	26	NW	30	16	11	4	3.5
Des Moines	948	985.1	1015.8	90	66	78.1	4.3	99	26+	52	31	19	0	59	56	1.77	-1.99	1.05	5	3	.0	0	10.4	S	49	SE	21	18	5	8	3.7
Dubuque	1065	977.7	1016.4	86	63	74.6	3.9	96	20	48	31	9	0	62	64	1.65	-1.95	.90	5	5	.0	0	---	- -	-	---	--	12	10	9	5.0
Sioux City	1094	973.9	1014.2	93	66	79.7	6.1	104	26+	51	31	20	0	60	55	.61	-2.11	.36	3	4	.0	0	12.5	S	37	S	25	19	10	2	3.1
KANSAS																															
Concordia CO	1375	965.5	------	93	70	81.7	3.2	104	26	55	31	22	0	--	48	.53	-2.67	.27	2	2	.0	0	7.0	---	26	S	21	22	9	0	2.0
Dodge City	2594	927.5	1013.6	92	68	79.5	.9	100	25	59	31	20	0	58	53	.78	-1.90	.38	7	7	.0	0	11.9	S	52	NW	29	19	7	5	3.4
Goodland	3645	889.6	1013.6	93	62	77.9	4.0	103	25	43	31	24	0	53	48	.54	2.01	.50	3	3	.0	0	11.4	SSE	*4)	ENE	9	21	8	2	2.6
Topeka	879	980.0	1015.2	93	67	79.8	2.2	100	1	51	31	20	0	63	61	3.75	-.91	1.71	5	5	.0	0	9.1	ESE	39	N	6	18	7	6	3.5
Wichita	1321	966.5	1014.0	92	69	80.6	.7	99	6+	52	31	23	0	61	56	1.06	-1.90	.88	4	5	.0	0	10.8	SSE	42	NW	6	16	7	8	3.7
KENTUCKY																															
Lexington	979	979.7	1015.4	88	67	77.7	3.3	94	20	56	31	16	0	66	73	3.95	.58	2.06	6	7	.0	0	8.3	NNE	--	---	--	13	15	3	4.2
Louisville	171	996.3	1015.1	92	69	80.1	4.0	98	3	56	31	20	0	66	67	.26	-2.80	.19	5	8	.0	0	7.4	N	26	NW	7+	15	12	4	3.8
LOUISIANA																															
Baton Rouge	64	1010.8	1013.7	91	73	81.9	1.2	97	22	68	17	24	0	73	79	3.63	-2.24	1.93	13	9	.0	0	6.4	NNW	-	- -	--	11	10	10	5.5
Lake Charles	12	1010.8	1013.3	90	74	82.0	-.3	95	22+	70	16	20	0	73	78	8.81	4.15	4.45	11	9	.0	0	6.2	NE	*35	S	2	6	12	13	6.4
New Orleans CO	9	1011.2	--- --	90	76	83.2	2	96	22	72	2	20	0	--	--	13.79	7.38	4.57	14	13	.0	0	5.2	---	26	N	1	10	12	9	5.2
New Orleans	3	1011.2	1013.4	91	75	82.7	.5	96	23	72	4+	22	0	74	80	11.77	6.13	2.15	15	12	.0	0	6.5	ENE	*29	N	1	11	13	7	4.8
Shreveport	252	1004.4	1013.9	90	73	81.2	-2.6	95	21	67	14+	21	0	72	79	6.83	4.46	4.64	12	6	.0	0	7.8	SSE	--	---	--	12	11	8	4.9
MAINE																															
Caribou	624	992.5	1015.5	75	55	64.8	3.0	86	4	40	25	0	0	56	76	4.42	.89	2.00	12	5	.0	0	9.4	S	*30	NW	28	5	8	18	7.1
Portland	61	1012.4	1016.4	79	58	68.5	2.1	97	5	41	10	5	0	63	82	3.02	.43	.80	11	7	.0	0	8.2	S	31	NW	5	10	8	13	6.1
MARYLAND																															
Baltimore CO	14	------	------	87	71	79.2	2.8	101	2	62	24+	12	0	--	--	17.69	13.31	7.82	15	--	---	--	----	---	--	---	--	--	--	--	---
Baltimore	146	1010.3	1015.2	86	70	78.1	3.7	100	2	58	26	11	0	70	81	18.35	13.97	7.82	18	5	.0	0	10.2	W	54	NE	12	10	9	12	5.8
Frederick	294	------	------	87	67	76.9	2.3	99	2+	55	24	12	0	--	--	9.59	5.56	5.32	13	--	.0	0	----	---	--	---	--	--	--	--	---
MASSACHUSETTS																															
Blue Hill Obs.	629	993.3	1016.3	81	64	71.4	3.9	98	5	49	28	6	0	--	80	18.78	14.70	9.93	13	7	.0	0	13.4	SSW	46	E	19	9	15	7	5.2
Boston	15	1011.3	1015.8	83	67	74.5	3.0	100	5	54	28	9	0	65	74	17.09	13.86	8.40	10	6	.0	0	12.9	SW	*48	ENE	19	12	10	9	5.1
Nantucket	43	1015.9	1016.5	75	64	69.5	2.4	87	2	52	9	0	0	66	89	4.66	1.23	1.97	8	3	.0	0	13.4	SSW	38	NW	19	7	9	15	6.3
Pittsfield	1153	973.7	1015.6	80	59	69.7	3.9	94	4+	39	29	3	0	--	--	8.20	3.89	2.92	12	8	.0	0	----	---	--	---	--	--	--	--	---
MICHIGAN																															
Alpena CO	587	993.2	------	80	63	71.8	6.0	99	21	50	24	5	0	--	-	4.34	1.75	1.59	8	7	.0	0	9.1	---	40	SW	20	11	11	9	5.0
Detroit	619	990.2	1015.7	85	66	75.7	4.4	100	21	53	24	11	0	63	67	3.75	1.13	.93	10	5	.0	0	8.3	N	39	NW	1	9	13	9	5.3
Detroit (Willow Run)	722	987.5	1015.4	86	66	75.9	4.8	99	19	53	24	11	0	62	67	1.72	-.99	.85	10	5	.0	0	9.7	W	*30	WNW	30	10	12	9	5.2
East Lansing CO	856	---	- -	86	65	75.4	6.4	99	2+	52	24	11	0	--	--	4.08	1.40	1.23	11	4	.0	0	4.0	---	22	SW	6	--	--	--	---
Escanaba CO	594	992.9	--	79	62	70.7	5.8	100	21	47	8	2	0	--	--	2.25	-.64	.85	10	6	.0	0	9.3	---	35	NW	30	11	9	11	5.5
Grand Rapids	681	994.6	1015.4	86	64	75.1	5.4	98	19	54	8+	11	0	61	65	4.35	1.77	3.60	8	4	.0	0	6.8	W	33	SW	29	9	14	8	5.2
Marquette	677	988.2	- -- -	77	62	69.6	4.3	95	19	50	8	3	0	--	71	3.19	.48	.83	14	8	.0	0	7.0	---	27	NW	30	11	8	12	5.5
Muskegon	627	992.9	1015.8	84	63	73.7	5.3	93	19	51	8	7	0	61	64	1.90	-.76	1.42	6	4	.0	0	----	---	--	---	--	13	11	7	4.7
Sault Ste.Marie	721	993.2	1015.8	79	58	68.6	5.7	93	18	47	8	3	0	60	78	1.98	-.64	.50	8	6	.0	0	7.9	WNW	29	NW	30	11	7	13	5.4
MINNESOTA																															
Duluth	1409	974.3	1015.4	78	57	67.8	3.0	92	18	45	31	2	0	59	77	3.96	.53	1.80	13	10	.0	0	10.9	WNW	37	NW	30	8	15	8	5.6
Intern'l Falls	1179	971.9	1014.8	80	54	67.1	4.3	95	18	40	31	3	0	57	73	2.00	-1.32	.98	9	9	.0	0	7.3	---	--	---	--	12	12	7	4.7
Minneapolis	830	982.4	1015.3	86	66	76.1	4.6	98	1	53	31	10	0	62	64	2.84	.05	1.17	11	8	.0	0	10.5	SE	32	NE	25	13	8	10	4.8
Rochester	1017	979.0	1015.4	87	62	74.5	5.1	99	17	47	31	13	0	61	68	1.90	-1.58	.97	9	6	.0	0	7.7	SE	--	---	--	14	5	12	4.7
St. Cloud	1034	977.3	1014.7	83	61	72.0	3.9	94	19	48	31	7	0	62	74	5.43	2.55	2.11	11	12	T	0	6.1	NW	--	---	--	13	10	8	4.7
MISSISSIPPI																															
Jackson	315	1002.2	1014.0	90	70	80.2	-1.2	96	22	64	15+	21	0	70	76	.52	-2.76	.27	6	5	.0	0	5.4	NW	26	SE	2	14	9	8	4.5
Meridian	294	1000.3	- - - -	92	70	80.7	.2	97	22	63	15	25	0	--	--	4.84	1.12	2.93	7	2	.0	0	----	---	--	---	--	16	8	7	4.
Vicksburg CO	234	1004.9	-- ---	89	73	81.0	-.5	94	22	66	17	14	0	--	--	1.48	-1.23	.78	6	3	.0	0	6.4	---	22	NE	1+	15	9	7	4.
MISSOURI																															
Columbia	778	987.5	1015.6	90	66	77.9	1.7	97	28	57	31	17	0	63	64	4.60	.71	2.60	7	7	.0	0	6.8	SSE	45	N	29	18	9	4	3.
Kansas City	741	981.4	1015.4	91	71	80.9	1.9	98	2+	61	31	18	0	63	57	3.27	-.62	1.57	6	4	.0	0	9.2	NE	33	SW	21	19	5	7	3.
St. Joseph	809	---	- ---	92	68	79.8	1.7	99	26	55	31	21	0	--	--	2.17	-1.56	1.49	3	4	.0	0	----	---	--	---	--	--	--	--	--
St. Louis CO	465	995.6	------	90	73	81.1	2.5	96	5	64	12	17	0	--	--	2.12	-1.65	1.74	6	4	.0	0	9.3	---	38	SW	29	13	11	7	4.
St. Louis	552	995.6	1015.7	91	69	80.2	2.5	98	28	58	31	18	0	64	62	2.33	-1.22	1.30	6	2	.0	0	7.6	S	--	---	--	15	10	6	4.
Springfield	1265	968.8	1015.5	88	66	76.9	.4	94	6+	55	31	13	0	63	67	.50	-3.51	.39	6	3	.0	0	10.8	SSE	39	SW	29	14	11	6	4.
MONTANA																															
Billings	3568	891.6	1012.0	89	59	73.9	2.9	101	31	49	29	17	0	47	41	.05	-.83	.05	1	2	.0	0	9.5	SW	46	NW	15	14	15	2	3.
Glasgow CO	2090	939.0	1013.1	90	56	73.3	3.7	100	1+	42	29	18	0	45	41	.09	-1.26	.07	3	4	.0	0	7.6	SE	--	---	--	22	6	3	2.
Great Falls	3664	888.9	1013.3	85	55	70.3	3.2	95	1+	47	28	8	0	36	32	.04	-1.16	.03	2	4	.0	0	10.7	WSW	41	NW	13	24	5	2	1.
Havre CO	2488	925.8	1013.6	86	53	69.6	1.6	97	1	46	27+	11	0	44	46	.10	-.96	.07	5	5	.0	0	7.2	---	33	W	8	26	3	2	2.
Helena	3893	874.4	1013.7	86	50	68.0	2.2	96	1+	42	21	9	0	40	40	.24	-.69	.11	4	6	T	T	7.6	W	56	SW	19	20	10	1	2.
Kalispell	2965	------	------	83	44	63.4	-.6	91	6+	34	27	3	0	--	--	T	-1.11	T	0	0	.0	0	----	---	--	---	--	29	2	0	1.
Miles City	2629	921.6	1012.8	93	60	76.4	4.1	103	12+	45	29	22	0	48	--	.17	-.93	.08	4	5	.0	0	8.1	SE	*32	NNW	13	21	7	3	3.
Missoula	3200	902.8	1015.3	86	47	66.6	.5	96	30	38	27	9	0	37	38	.02	-.76	.02	1	1	.0	0	6.1	NW	38	SW	15	26	5	0	1.
NEBRASKA																															
Grand Island	1841	949.5	1014.2	93	67	79.7	3.5	105	26	47	31	21	0	56	49	.78	-1.61	.78	1	2	.0	0	12.1	SSE	--	---	--	24	6	1	2.
Lincoln CO	1184	-----	---	93	69	80.8	3.9	104	26	53	31	21	0	--	--	.55	-2.53	.22	4	3	.0	0	7.9	---	27	NW	9	25	5	1	2.
Norfolk	1544	959.7	1014.3	93	67	79.6	5.7	105	26	50	31	21	0	58	49	1.43	-1.44	.76	5	6	T	T	----	---	--	---	--	18	10	3	3.
North Omaha	1323	967.8	------	91	66	78.2	---	103	26	54	30+	19	0	--	--	1.51	----	.90	4	5	.0	0	----	---	--	---	--	--	--	--	--
North Platte	2779	916.7	1013.1	92	62	77.0	3.3	103	25	40	31	22	0	58	56	.32	-1.79	.24	3	6	.0	0	9.7	SE	34	N	4	18	11	2	3.
Omaha	978	976.0	1015.0	92	68	80.0	4.3	103	26+	54	31	21	0	61	56	1.31	-1.81	.81	4	4	.0	0	9.7	SSE	42	N	9	22	6	3	2.
Scottsbluff	3950	880.1	1012.8	89	60	74.6	2.2	99	1	45	30	15	0	57	58	2.04	.82	.87	9	10	.0	0	8.8	E	--	---	--	13	11	7	4.
Valentine CO	2581	923.5	------	92	62	77.1	4.0	105	1+	41	31	17	0	--	--	1.81	-.19	.99	8	10	.0	0	11.0	---	38	S	23	16	8	7	4.
NEVADA																															
Elko	5075	846.6	1014.0	91	49	69.7	2.1	97	2+	36	29	22	0	39	37	.23	-.06	.16	5	6	.0	0	5.1	SW	*35	WSW	24	20	8	3	3.
Ely	6257	812.1	1015.4	84	51	67.7	1.4	92	2	40	29	6	0	43	48	1.21	.32	.38	8	9	T	0	8.8	---	42	N	13	8	19	4	4.
Las Vegas	2162	945.5	1009.4	100	73	86.7	-1.7	108	30	64	28	31	0	55	40	1.74	1.21	1.32	6	12	.0	0	7.9	SW	*40	SSE	16	14	12	5	3.
Reno	4397	862.5	1013.7	93	46	69.5	2.1	100	2	35	26	26	0	36	35	T	-.23	T	0	0	.0	0	6.0	WNW	33	NW	25	27	2	2	1.
Winnemucca	4299	867.9	1012.5	94	46	70.1	.4	99	2+	33	27	27	0	28	22	.04	-.14	.04	1	1	.0	0	7.4	---	29	NE	6	26	3	2	1.
NEW HAMPSHIRE																															
Concord	339	1005.6	1016.3	83	59	71.2	4.7	100	5	42	29	9	0	62	76	3.95	.85	.91	11	5	.0	0	3.5	S	35	NW	5	9	9	13	5.
Mt. Washington	6262	811.9	- ---	57	46	51.4	3.7	69	22	28	28	0	2	--	89	13.14	6.99	5.20	17	5	T	0	23.7	W	%87	SE	13	4	7	20	7.
NEW JERSEY																															
Atlantic City CO	8	1013.0	---	81	72	76.3	3.2	93	20	61	26	3	0	--	--	5.90	1.18	2.20	9	2	.0	0	17.2	---	65	S	13	9	11	11	5.

See footnotes at end of table.

ble 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M p. h.			0–3	4–7	8–10	0–10	%
NEW JERSEY (Cont'd.)																																
wark	11	1014.6	1015.5	86	69	77.7	4.6	100	2	59	26+	9	0	66	72	11.84	7.65	3.82	11	4	0.0	0	10.8	SSW	46	E	13	9	12	10	6.1	-
enton	56	1008.1	1014.5	85	69	77.4	4.2	100	2	59	26+	11	0	--	-	14.10	9.51	4.76	16	11	.0	0	9.2	--	40	S	13	6	11	12	6.0	59
NEW MEXICO																																
buquerque	5310	850.3	1011.9	89	65	76.9	.0	94	25	58	28	15	0	55	53	1.32	-.06	.46	14	16	T	T	7.7	SE	42	N	6+	13	14	4	4.5	74
ayton	4969	848.0	1014.0	87	60	73.2	.3	93	4+	51	31	8	0	-	--	1.46	-.55	.97	8	12	.0	0		-			-	15	13	3	3.7	
swell	3612	893.7	1012.1	93	64	78.7	.7	100	9	57	13	27	0	56	48	.61	-.84	.41	4	6	.0	0	7.6	---	47	S	22	24	3	4	2.7	
NEW YORK																																
bany	277	1011.6	1015.4	85	63	73.6	4.0	99	5	42	29	11	0	64	78	5.28	2.39	1.87	15	7	.0	0	7.3	S	34	W	21	8	11	12	5.9	51
nghamton	1601	957.6	1016.0	81	62	71.6	5.0	94	1+	48	29	4	0	62	77	5.79	2.13	1.93	11	6	.0	0	12.4	WSW	56	W	21	5	12	14	6.6	59
ffalo	693	988.0	1015.8	83	65	73.8	4.9	93	2+	51	24	4	0	64	74	4.81	2.27	2.73	11	5	.0	0	12.1	SW	47	NE	13	8	16	7	5.6	63
w York CO	10	1004.2	------	84	70	77.2	4.0	98	2	63	24+	8	0	--	--	13.82	9.48	6.71	11	5	.0	0	11.6		59	NW	19	7	13	11	6.0	56
w York	19	1013.8	1015.8	87	71	78.7	4.3	100	2+	61	29	10	0	66	70	16.05	11.78	7.11	14	5	.0	0	12.8	SSE	56	N	19	7	13	11	6.1	-
chester	543	996.1	1015.1	84	64	73.9	5.0	96	1+	51	24	10	0	62	71	5.27	2.79	1.85	12	8	T	0	10.7	SSW	59	NE	13	8	13	10	5.5	74
henectady	217	------	------	84	65	74.5	4.1	97	5	49	29	10	0	--		7.32	4.05	2.82	12	3	.0	0	---	---				16	12	3	3.7	-
racuse	424	994.6	1016.1	85	64	74.6	4.3	96	5	46	29	12	0	63	69	3.80	.71	1.18	10	4	.0	0	10.1	S	42	NW	30	8	12	11	5.9	53
NORTH CAROLINA																																
neville	2203	------	------	85	65	74.8	2.1	92	20	60	24	3	0	--	--	3.71	.13	1.41	13	10	T	0	5.7	--	29	SE	3	7	21	3	5.2	61
arlotte	727	988.0	1014.7	91	71	81.2	3.9	98	20+	63	27	21	0	69	75	1.95	-2.41	.88	8	7	.0	0	8.6	NNE	32	N	17	8	14	9	5.5	57
eensboro	891	983.8	1015.2	87	68	77.5	1.7	95	3	59	27	10	0	69	80	6.64	1.93	3.30	14	5	.0	0	9.4	NE	*35	N	17	11	9	11	5.7	63
tteras CO	4	1013.0	1013.7	84	75	79.8	-1.5	91	3	71	11+	1	0	73	80	10.24	4.41	4.13	15	3	.0	0	15.3	S	62	NE	11	13	7	11	5.3	--
leigh	433	999.1	1014.1	88	69	78.3	1.1	94	2+	58	27	12	0	70	80	10.49	5.53	5.20	11	11	.0	0	9.0	NE	*40	N	12	9	12	10	5.7	67
lmington	30	1011.6	------	87	71	79.2	-.1	93	19	66	28	14	0	--		12.29	5.89	3.63	14	7	.0	0	11.7	--	72	NE	11	10	10	11	5.7	57
nston-Salem	967	980.5	1015.3	87	69	77.6	1.4	95	3+	60	25+	10	0	68	77	4.75	.65	2.32	12	6	.0	0	9.3	NE	*40	WNW	22	12	9	10	5.2	--
NORTH DAKOTA																																
smarck	1650	954.6	1013.8	87	59	72.8	3.5	102	17	43	31	13	0	55	60	1.04	-.46	.45	9	7	.0	0	10.7	E	56	NW	5	15	10	6	4.1	82
vils Lake CO	1471	961.7	------	83	57	70.0	3.2	96	2	42	31	9	0	-	--	2.80	.63	1.70	8	6	.0	0	7.5	-	31	NW	16	15	11	5	3.6	81
rgo	895	980.7	1014.6	85	61	72.6	3.5	99	20	43	31	7	0	59	65	1.11	-1.62	.39	7	7	.0	0	13.5	SSE	71	NW	3	14	10	7	4.3	66
lliston CO	1877	946.8	1013.4	86	58	72.1	4.0	98	18	43	30	11	0	51	50	1.14	-.27	.80	6	7	.0	0	6.6		35	NE	5	16	10	5	3.6	82
OHIO																																
ron	1210	978.6	1016.5	85	63	73.9	3.3	95	2+	50	24	9	0	63	73	2.43	-.83	.94	8	6	.0	0	9.1	N	-	-	-	7	13	11	6.0	--
ncinnati Obs.	761	------	------	89	67	78.0	3.2	97	20	56	25	14	0	--	--	4.14	.76	3.08	6	6	.0	0	4.6	-	25	NW	21	--	--	--	---	74
ncinnati	869	984.2	1015.6	90	66	77.9	4.4	98	2	54	25+	17	0	64	66	.86	-2.48	.69	5	2	.0	0	7.0	SSW	*28	WNW	22	8	17	6	5.1	--
eveland	787	988.5	1015.7	86	67	76.1	4.2	100	19	53	24	12	0	65	71	3.82	1.18	1.78	10	4	.0	0	10.4	N	42	N	13	9	11	11	5.4	65
lumbus CO	724	------	------	88	68	77.7	3.9	98	3	56	24	12	0	--	--	1.94	-1.07	.53	8	4	.0	0	---	--	--	---					---	-
lumbus	815	986.3	1015.9	90	65	77.2	4.8	100	3	52	24	17	0	64	69	2.38	-.83	1.39	7	7	.0	0	6.6	NNW	29	SW	30	6	18	7	5.5	75
yton	1002	980.1	1015.8	88	67	77.0	4.1	96	21	56	24+	12	0	64	67	1.20	-1.66	.89	6	5	.0	0	8.9	N	26	SW	30	8	14	9	5.4	80
ndusky CO	715	993.7	------	85	69	77.0	4.2	97	21	56	24	10	0	--	--	3.85	1.04	2.06	8	4	.0	0	6.6	--	27	NE	13	13	12	6	4.3	74
ledo	676	990.6	1015.7	86	64	74.8	---	97	2+	51	31	11	0	64	74	3.53	----	1.98	9	3	.0	0	8.0	WSW	46	NE	1	10	12	9	5.3	76
ungstown	1178	974.3	1016.3	84	63	73.2	2.9	95	2+	48	24	8	0	64	77	4.08	.62	1.81	11	7	.0	0	7.5	SSW	33	N	13	6	13	12	6.1	--
OKLAHOMA																																
lahoma City	1280	968.5	1014.1	92	70	80.8	-1.2	99	6	59	31	21	0	64	63	3.18	.68	1.43	6	9	T	T	10.5	SSE	45	NW	9	17	10	4	3.8	--
lsa	672	989.8	1013.9	94	71	82.2	.3	101	21	61	14+	27	0	65	60	4.98	1.75	3.16	9	8	.0	0	9.4	SSE	33	NE	7	14	12	5	4.4	76
OREGON																																
toria	8	1018.6	1019.7	67	50	58.3	-3.5	74	28	43	27	0	0	52	80	.10	-1.35	.01	2	0	.0	0	7.2	NW	-	--		12	12	7	4.7	--
rns CO	4140	873.7	1013.4	89	51	70.0	2.8	94	10+	40	30	15	0	30	24	T	-.27	T	0	0	.0	0	-	---	--	---	--	26	3	2	1.2	--
gene	361	1004.1	1017.6	81	47	63.5	-2.5	95	6	38	22	3	0	--	--	T	-.38	T	0	0	.0	0	7.9	---	--	---	--	22	8	1	2.4	--
acham	4050	------	------	78	49	63.5	.9	89	29	39	3+	0	0	--	-	00	-.42	.00	0	0	.0	0	---	---	--	--	--	30	0	1	.9	--
dford	1312	967.8	1014.6	91	52	71.8	.7	102	5	44	25	20	0	47	46	.00	-.19	.00	0	0	.0	0	4.8	NNW	*18	NNW	11	28	2	1	.7	--
ndleton	1492	961.7	1014.6	88	56	72.0	-.7	97	6+	46	26	11	0	36	31	.00	-.33	.00	0	0	.0	0	9.7	SE	*32	W	19	30	1	0	.5	--
rtland	21	1012.2	1017.7	77	54	65.5	-1.8	90	6	45	21	1	0	52	66	T	-.61	T	0	0	.0	0	7.0	NW	19	N	3+	16	12	3	3.4	75
seburg	505	998.3	1016.6	84	49	66.1	---	98	6	41	22	3	0	-	--	T	-.32	T	0	0	.0	0	6.1	---	22	N	19	23	6	2	2.0	85
lem	195	1010.2	1017.5	81	48	64.5	-2.5	95	6	42	13+	3	0	49	63	T	-.49	T	0	0	.0	0	7.0	NW	--	---	--	21	8	2	2.6	--
xton Summit CO	3836	------	------	77	52	64.3	.6	90	6	40	25	1	0	--	--	T	-.29	T	0	0	.0	0	---	--	--	---	--	27	4	0	.8	--
PENNSYLVANIA																																
lentown	376	1002.1	1016.0	86	66	75.8	4.0	100	2+	54	24+	9	0	65	75	12.10	7.61	4.79	15	8	.0	0	9.1	WSW	--	---	--	10	8	13	5.9	--
rrisburg	335	1001.7	1015.3	87	68	77.1	4.1	100	5	57	26	12	0	65	70	9.07	5.73	3.35	14	6	.0	0	6.2	ESE	37	E	13	7	14	10	6.1	70
iladelphia CO	26	------	------	86	71	78.5	3.3	100	2	63	26	10	0	--	--	8.93	4.31	3.58	15		---	--	----	--	--	---	--	--	-	--	---	--
iladelphia	10	1010.7	1015.1	87	70	78.1	4.1	100	6	57	26	11	0	68	75	9.70	5.12	4.81	15	8	.0	0	10.3	ENE	67	E	13	6	12	13	6.3	57
ttsburgh CO	749	------	------	86	67	76.7	3.6	96	2+	55	24	9	0	--	--	8.17	5.09	2.24	10	--	.0	0	----		-	---	-				---	53
ttsburgh	1151	985.9	1016.1	84	65	74.2	4.1	95	3	53	24	6	0	64	74	6.77	3.64	1.93	11	7	.0	0	8.4	WSW	*29	WSW	22	5	15	11	6.2	51
ading CO	266	1003.2	1014.9	87	69	77.8	4.4	102	2	58	24+	11	0	--	-	14.85	10.97	5.26	17	9	.0	0	9.9	---	56	E	13	6	11	14	6.2	58
anton	940	983.2	1016.6	84	64	73.6	3.6	96	1	52	28	7	0	63	74	11.76	7.68	4.58	17	9	T	T	6.9	SW	42	SE	13	7	10	14	6.0	54
ippingport CO	736	------	------	84	64	74.0	---	95	3+	52	24	8	0	--	--	5.35	----	1.51	8	8	.0	0	2.0	--	%55	WSW	21	--	--	--	---	--
lliamsport	527	996.9	------	86	65	75.4	4.5	100	5	54	26	8	0	--	--	7.67	4.06	2.06	13	-	.0	0	---	--	-	---		9	11	11	5.8	--
RHODE ISLAND																																
ock Island	110	1011.3	1015.3	78	66	72.0	3.0	88	2	56	29	0	0	--	--	6.34	2.88	3.36	11	2	.0	0	----	---	--	---	--	7	10	14	6.0	--
ovidence	55	1010.0	1016.1	82	64	73.0	3.6	95	5	48	29	5	0	66	78	11.12	7.49	5.47	10	3	.0	0	9.8	SSW	*31	SSW	7	11	9	11	5.5	61
SOUTH CAROLINA																																
arleston CO	9	------	------	88	76	82.0	1.0	95	19	69	10	12	0	--	--	3.35	-3.19	1.31	13	6	.0	0	9.7	---	41	NW	11	10	11	10	5.5	65
arleston	41	1011.9	1013.7	88	71	79.8	.2	95	19	64	27	12	0	73	83	2.28	-4.33	.52	10	7	.0	0	9.8	SSE	-	---	-	5	18	8	5.8	--
lumbia	217	1005.1	1013.2	93	72	82.4	2.4	97	5+	64	27	26	0	72	77	4.79	-.74	2.06	13	11	.0	0	7.3	NNE	*29	NNE	11+	8	17	6	5.4	86
orence	146	1008.0	------	90	72	80.8	1.5	95	5+	63	27	20	0	--	--	3.15	-1.63	.83	12	7	.0	0	----	---	--	---	--	13	9	9	5.3	--
eenville	1018	977.8	1014.3	89	70	79.8	2.6	97	6	65	27	18	0	67	71	1.01	-3.79	.60	6	7	.0	0	9.9	NE	27	NE	17	12	11	8	5.3	71
artanburg	801	------	------	89	71	79.6	1.9	95	6	65	25+	14	0	--	--	4.35	-.34	2.02	9	7	.0	0	6.7	--	*23	SW	7	--	--	--	---	--
SOUTH DAKOTA																																
ron	1282	967.2	1013.1	91	64	77.5	4.6	104	1+	43	31	18	0	59	59	1.00	-.98	.30	11	12	.0	0	11.8	S	56	S	22	12	11	8	4.6	74
pid City	3165	902.1	1013.5	91	62	76.2	5.3	102	1+	49	30+	16	0	53	49	1.65	.09	.57	8	15	.0	0	9.2	NNW	43	W	16	13	14	4	4.1	70
oux Falls	1420	964.1	1014.3	91	64	77.9	5.5	103	25	46	31	19	0	57	55	1.22	-2.06	.67	5	8	.0	0	10.2	S	*29	SSE	23+	18	7	6	3.4	--
TENNESSEE																																
istol	1519	962.2	------	89	66	77.6	4.0	95	21	60	24	15	0	--	--	1.88	-2.01	.55	8	7	.0	0	-	-	-	---	--	9	16	6	5.1	--
attanooga	670	987.7	1014.6	92	69	80.4	3.1	97	19+	65	25+	23	0	69	74	1.69	-2.01	1.39	7	9	.0	0	4.2	NNE	25	S	1	13	13	5	4.6	76
oxville	950	980.6	1015.2	92	69	80.5	3.5	97	20	65	28	25	0	68	71	1.93	-1.50	.60	7	6	.0	0	5.7	NE	26	N	7+	11	16	4	4.3	70
mphis CO	271	------	------	89	72	80.9	.6	94	21	64	13+	19	0	--	--	3.68	1.15	1.99	9	--	.0	0	----	---	--	---	--	-	-	--	---	--
mphis	263	1000.4	1014.8	92	71	81.5	1.2	97	7	64	17+	22	0	69	70	4.07	1.13	1.85	9	5	.0	0	8.1	N	34	SE	2	15	12	4	4.1	84
shville	577	995.6	1015.2	92	70	80.9	2.2	97	19	62	31	21	0	69	74	4.02	.71	.87	11	10	.0	0	4.8	N	34	W	22	13	13	5	4.4	77
k Ridge CO	905	982.4	------	90	67	78.7	2.1	96	4	62	13	17	0	--	--	4.54	.48	2.20	9	10	.0	0	3.4	---	33	W	4	16	10	5	4.3	--
TEXAS																																
ilene	1759	952.9	1012.2	94	71	82.8	.0	103	9	64	16	28	0	61	53	1.56	.47	1.14	4	5	.0	0	9.7	SSE	49	S	4	18	11	2	3.4	79
arillo	3590	890.3	1012.9	90	64	76.7	.1	95	17+	55	31	16	0	55	53	1.49	-1.50	.86	4	6	.0	0	10.1	SSE	41	N	29	17	10	4	4.0	76
stin	615	991.5	1012.8	95	74	84.5	.0	102	8+	68	18	28	0	67	62	1.92	.25	1.20	8	3	.0	0	8.2	NE	28	NE	30	10	10	11	5.5	70

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10
TEXAS (Cont'd.)																															
Brownsville	16	1009.8	1012.1	92	76	84.1	0.0	95	8	73	2	29	0	74	78	1.85	-0.60	0.52	11	7	0.0	0	9.8	SE	27	SE	19	11	16	4	4.6
Corpus Christi	40	1011.5	1012.4	93	76	84.6	1.6	97	26	70	19	29	0	75	77	.83	-1.25	.53	4	5	.0	0	9.4	ESE	30	SE	18	12	12	7	4.7
Dallas	487	995.6	1013.9	95	74	84.4	-1.4	102	9+	64	15	26	0	69	64	1.56	-.27	.66	6	2	.0	0	9.6	SE	44	S	19	11	13	7	4.5
Del Rio	1091	978.0	1011.8	95	74	84.5	-.6	103	9	70	13+	27	0	67	60	1.53	.09	.40	9	7	.0	0	8.9	---	40	N	30	14	12	5	4.4
El Paso	3920	885.9	1011.1	92	69	80.1	.3	97	25	65	8+	24	0	57	48	.70	-.62	.37	6	12	.0	0	9.7	E	41	NE	7	13	15	3	4.1
Fort Worth	544	993.6	1013.8	95	73	84.2	-1.2	103	8+	64	15	27	0	66	60	1.00	-.88	.85	4	4	.0	0	10.0	ESE	*25	SSE	19	12	15	4	4.0
Galveston CO	7	------	------	88	78	83.2	-.4	94	25	72	19	7	0	--	--	5.11	1.56	1.25	11	--	.0	0	9.1	---	34	SW	3	--	--	--	---
Galveston	5	1011.2	1013.5	89	78	83.1	-.6	93	25	72	3	11	0	75	76	5.34	1.72	1.50	14	13	.0	0	11.5	S	--	---	--	6	16	9	6.3
Houston CO	41	1008.1	------	91	75	83.4	-.8	97	23	71	19	22	0	--	--	6.66	3.57	1.82	11	10	.0	0	7.1	---	30	SE	19	3	15	13	6.5
Houston	50	1010.5	1012.9	92	74	82.8	-.1	98	24	70	19	21	0	72	75	10.10	5.98	2.14	14	11	.0	0	8.8	SSE	--	---	--	4	14	13	6.5
Laredo	500	995.9	1011.0	99	77	88.0	.2	104	9+	73	2	31	0	69	59	.89	-.41	.35	7	7	.0	0	10.2	SE	*30	ESE	18	12	14	5	4.6
Lubbock	3243	903.8	1012.6	91	65	77.9	-.5	99	9	56	31	19	0	60	58	.62	-1.17	.24	4	2	.0	0	10.6	SSE	*29	NNE	29	19	11	1	3.1
Midland	2854	915.7	1012.3	92	69	80.6	-.8	100	9	64	20	23	0	58	50	.46	-1.19	.46	1	3	.0	0	8.1	ESE	*25	ENE	1	17	11	3	3.7
Port Arthur	16	1012.2	1013.6	90	73	81.8	.0	95	24	69	16+	20	0	74	81	12.86	7.72	4.19	12	13	.0	0	6.9	NNE	45	SW	3	4	17	10	6.0
San Angelo	1903	946.8	1012.5	93	70	81.8	-1.4	103	9	64	14	23	0	60	52	.68	-.91	.41	5	6	.0	0	8.7	S	*37	NNE	4	17	9	5	4.0
San Antonio	792	988.2	1012.4	95	74	84.6	.2	101	9	71	15+	28	0	67	61	.81	-1.17	.53	7	3	.0	0	7.4	SSE	32	SE	4	11	15	5	4.8
Victoria	110	1008.1	1012.5	93	75	84.2	-1.1	98	28	71	19	28	0	72	71	5.10	2.47	1.86	11	10	.0	0	7.7	---	%41	NE	13	6	17	8	5.5
Waco	500	994.9	1013.0	93	73	83.0	-2.5	103	9	65	16	23	0	68	65	3.14	1.76	1.06	8	7	.0	0	8.2	SSE	--	---	--	11	10	10	4.8
Wichita Falls	1027	977.0	1012.7	96	71	83.5	-.7	105	9	60	31	28	0	63	54	1.59	-.48	1.33	5	4	.0	0	9.9	SE	*29	N	30	16	13	2	3.5
UTAH																															
Milford	5028	846.3	1013.9	89	57	73.4	1.7	98	3	49	30	20	0	--	--	1.69	.88	.78	9	16	.0	0	----	---	--	---	--	14	11	6	4.1
Salt Lake City	4220	867.9	1012.2	91	62	76.3	1.9	98	3	53	29	20	0	50	45	.44	-.53	.14	9	4	.0	0	8.1	SSE	30	E	4	14	12	5	4.0
VERMONT																															
Burlington	331	1001.0	1015.5	81	61	71.3	3.2	95	1+	43	28	5	0	61	74	11.54	8.53	3.59	15	10	T	0	9.3	S	54	N	5	7	11	13	6.4
VIRGINIA																															
Lynchburg	947	982.3	------	84	68	76.0	1.8	95	4+	58	25	11	0	--	--	6.17	1.82	2.63	13	9	.0	0	8.0	---	36	N	17	10	7	14	5.7
Norfolk	26	1013.2	1014.4	87	72	79.9	3.5	97	2	62	27	12	0	72	79	8.16	3.08	4.47	10	4	.0	0	11.4	ENE	47	E	12	9	11	11	5.7
Richmond	162	1008.9	1014.8	87	70	78.7	2.8	97	6	59	27	11	0	71	81	14.10	9.05	8.79	14	5	.0	0	8.5	S	34	SE	18+	11	6	14	5.8
Roanoke	1174	973.7	1015.6	87	68	77.2	2.9	98	2+	59	25	14	0	67	77	4.70	.16	2.04	12	7	.0	0	5.9	NE	--	---	--	9	10	12	5.9
WASHINGTON																															
Olympia	190	1010.8	1018.6	76	46	60.7	-2.2	91	6	38	27	2	0	49	68	.02	-.64	.02	1	0	.0	0	4.8	SSW	*15	WSW	19	14	10	7	4.5
Seattle CO	14	------	------	72	55	63.2	-2.0	86	6+	52	13+	0	0	--	--	T	-.87	T	0	0	.0	0	7.1	---	19	NE	2	14	11	6	4.1
Seattle	14	1017.9	1018.7	--	--	----	---	--	--	--	--	--	--	51	69	----	----	----	--	--	---	--	6.0	NW	--	---	--	--	--	--	---
Seattle-Tacoma	379	1004.7	1019.2	71	51	60.9	-2.7	87	29	44	13+	0	0	51	74	.17	-.71	.08	3	0	.0	0	10.3	NE	*28	SW	19	13	9	9	4.7
Spokane	2357	946.5	1014.6	83	54	68.4	.5	92	6+	46	13+	4	0	38	36	T	-.49	T	0	0	.0	0	7.2	SW	20	SW	1+	28	3	0	1.0
Stampede Pass CO	3958	882.2	1019.8	64	45	54.4	-2.2	83	6	37	13	0	0	--	--	.36	-1.72	.14	5	0	.0	T	----	---	--	---	--	18	9	4	3.3
Tatoosh CO	101	1016.6	1020.0	59	50	54.6	-1.1	66	29	45	9	0	0	52	92	.18	-1.83	.11	2	0	.0	0	8.9	S	24	E	28	4	13	14	6.8
Walla Walla CO	949	978.7	1013.9	88	61	74.3	.1	98	6	52	26	15	0	--	--	T	-.34	T	0	0	.0	0	5.1	---	16	SW	19	30	1	0	.3
Yakima	1061	976.3	1014.6	87	49	67.9	1.6	98	6	38	26	10	0	44	44	.00	-.22	.00	0	0	.0	0	5.8	WNW	--	---	--	28	3	0	.9
WEST VIRGINIA																															
Charleston	950	978.9	1015.5	88	67	77.1	3.5	97	3+	57	25	12	0	67	77	2.09	-2.46	1.33	9	5	.0	0	5.4	N	23	NW	7	6	14	11	6.2
Elkins	1970	------	------	82	61	71.5	3.3	94	3	53	25	4	0	63	--	4.30	.47	1.54	12	6	.0	0	4.8	NNW	*40	NW	21	2	16	13	6.8
Huntington CO	565	------	------	90	68	79.0	3.6	100	4	58	25	18	0	--	--	3.53	.16	1.85	7	--	.0	0	----	---	--	---	--	--	--	--	---
Parkersburg	837	------	------	88	67	77.5	3.5	99	4	56	25	11	--	--	--	4.45	.30	1.82	7	5	.0	0	5.0	---	37	N	7	--	--	--	5.1
WISCONSIN																															
Green Bay	689	992.9	1015.4	85	60	72.5	4.7	99	21	46	31	9	0	61	72	.90	-2.13	.52	8	3	.0	0	8.0	SW	37	W	30	11	12	8	5.0
La Crosse	652	990.9	1015.0	88	65	76.3	4.9	103	21	50	31	15	0	62	61	.79	-2.50	.24	5	3	.0	0	8.2	S	*23	N	21	13	9	9	4.5
Madison	857	981.0	1015.7	89	63	75.7	5.0	101	21	49	31	15	0	61	65	1.55	-1.34	.65	6	5	.0	0	7.9	SW	47	W	3	11	13	7	5.1
Milwaukee	675	991.2	1015.8	87	66	76.4	6.5	100	21	52	31	16	0	62	65	3.62	1.00	1.63	8	6	.0	0	12.0	SSW	45	E	16	13	11	7	4.7
WYOMING																															
Casper	5322	839.5	1011.8	88	59	73.2	4.3	96	3	47	30	12	0	42	39	.81	-.05	.31	8	4	.0	0	10.9	SW	*44	W	8	15	10	6	3.9
Cheyenne	6131	815.4	1014.6	82	57	69.1	2.3	91	2	43	30	1	0	49	56	1.21	-.40	.27	15	13	T	T	9.1	WNW	40	NW	26	8	14	9	5.3
Lander	5563	837.8	1014.0	87	57	72.0	3.6	96	3	50	30	10	0	43	40	.31	-.29	.25	4	8	.0	0	6.8	---	27	SW	1+	15	9	7	4.3
Sheridan	3942	884.9	1013.6	88	57	72.6	4.0	97	12	44	29+	15	0	47	44	.52	-.30	.21	7	8	.0	0	7.6	S	52	NW	8	17	11	3	3.5
PACIFIC AREA																															
Canton Island	9	1010.8	1011.4	87	78	82.2	-2.0	88	7+	73	12	0	0	72	74	.69	-1.71	.39	7	0	.0	0	----	---	--	---	--	18	10	3	3.7
Hilo	31	1015.6	1016.9	81	66	73.5	-1.9	83	14+	63	1	0	0	66	80	8.03	-3.89	2.03	29	0	.0	0	8.1	WSW	*23	ENE	22	0	14	17	7.3
Honolulu	7	1016.6	1016.9	83	71	76.8	-2.6	85	21	68	19	0	0	64	66	.59	-.21	.21	8	0	.0	0	15.5	ENE	32	E	15	7	19	5	5.2
Koror CO	94	1005.8	------	87	75	80.9	.2	89	1+	73	7+	0	0	76	85	8.92	-5.93	1.41	27	6	.0	0	----	---	--	---	--	0	6	25	8.7
Lihue	115	1012.5	1017.6	82	71	76.5	-1.6	84	20+	67	2	0	0	67	74	2.80	.53	1.07	23	0	.0	0	15.2	NE	26	NE	8+	3	18	10	6.4
Majuro	10	1009.5	1009.8	85	75	79.9	---	87	16+	71	9	0	0	75	84	14.36	----	2.57	25	1	.0	0	----	---	--	---	--	0	11	20	8.3
Ponape CO	112	1005.1	------	88	73	80.0	.0	91	29	70	4	6	0	75	87	20.73	5.36	4.37	28	5	.0	0	----	---	--	---	--	0	11	20	8.3
Truk (Moen Island)	8	1009.8	------	86	75	80.2	-.1	88	7+	72	9+	0	0	76	86	15.89	3.29	2.38	30	4	.0	0	----	---	--	---	--	0	5	26	9.0
Wake Island	11	1013.5	1013.9	88	78	82.7	.2	90	5+	72	26	3	0	73	74	3.50	-5.40	1.50	17	0	.0	0	11.9	ESE	--	---	--	8	7	16	6.7
Yap CO	53	1007.8	------	88	74	81.2	-.4	91	26+	72	7+	10	0	76	86	20.01	4.08	4.10	29	2	.0	0	----	---	--	---	--	0	4	27	9.4
WEST INDIES																															
San Juan CO	47	------	------	87	77	82.0	1.5	94	8	74	14+	6	0	--	--	6.53	.27	4.14	13	7	.0	0	----	---	--	---	--	--	--	--	---
San Juan, P.R.	9	1010.8	1013.1	88	74	81.2	---	91	8+	71	4	6	0	73	79	11.76	----	5.08	18	11	.0	0	8.8	ENE	43	W	6	4	16	11	6.4

Data from airport unless otherwise specified. CO indicates data from city office.

* Data entered in column "Fastest Mile" is the fastest mile observed.

+ And also on a later date or dates.

■ Maximum hourly average.

% Peak gust.

HEATING DEGREE DAYS

ble 3 (Base 65°F.) AUGUST 1955

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
rmingham	0	0	0
bile	0	0	0
ntgomery	0	0	0
ARIZONA			
agstaff	22	127	127
oenix (CO)	0	0	0
oenix	0	0	0
escott	0	0	0
cson	0	0	0
nslow	0	0	0
ma	0	0	0
ARKANSAS			
. Smith	0	0	0
ttle Rock	0	0	0
xarkana	0	0	0
CALIFORNIA			
kersfield	0	0	0
shop	0	0	0
ue Canyon	1	111	77
rbank	0	0	0
reka (CO)	352	643	515
esno	0	0	0
s Angeles (CO)	0	0	0
s Angeles	0	3	53
. Shasta (CO)	6	114	83
kland	116	255	161
d Bluff	0	0	0
cramento (CO)	0	2	0
cramento	0	1	0
ndberg (CO)	0	26	0
n Diego	0	0	18
n Francisco (CO)	256	502	366
n Francisco	163	333	280
n Jose	18	50	18
nta Maria	129	325	192
COLORADO			
amosa	35	76	185
lorado Springs	1	1	29
nver	2	2	16
and Junction	0	0	0
eblo	0	0	0
CONNECTICUT			
idgeport	0	0	0
rtford	8	8	14
w Haven	5	5	[illegible]
DELAWARE			
lmington	0	0	0
DIST. OF COLUMBIA			
shington (CO)	0	0	0
shington	0	0	0
FLORIDA			
alachicola (CO)	0	0	0
ytona Beach	0	0	0
rt Myers	0	0	0
cksonville (CO)	0	0	0
cksonville	0	0	0
y West (CO)	0	0	0
ami (CO)	0	0	0
ami	0	0	0
ami Beach	0	0	0
lando	0	0	0
nsacola (CO)	0	0	0
llahassee	0	0	0
mpa	0	0	0
st Palm Beach	0	0	0
GEORGIA			
thens	0	0	0
tlanta	0	0	0
gusta	0	0	0
lumbus	0	0	0
acon	0	0	0
ome	0	0	0
avannah	0	0	0
IDAHO			
oise	0	44	0
ewiston	1	42	0
ocatello	0	40	0
ILLINOIS			
airo (CO)	0	0	0
hicago (CO)	0	0	
hicago	0	0	0
hicago University	0	0	
oline	0	0	8
eoria	0	0	11
pringfield	0	0	6
INDIANA			
vansville	0	0	0
t. Wayne	2	2	17
ndianapolis	0	0	0
outh Bend	2	2	18
IOWA			
urlington	0	0	0
es Moines	1	1	17
ubuque	6	6	36
eokuk (CO)	0	0	
IOWA (Cont'd.)			
Sioux City	0	0	25
KANSAS			
Concordia (CO)	0	0	0
Dodge City	0	0	0
Goodland	0	0	0
Topeka (CO)	0	0	0
Topeka	0	0	8
Wichita	0	0	0
KENTUCKY			
Lexington	0	0	0
Louisville	0	0	0
Pikeville (CO)	0	0	
LOUISIANA			
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans (CO)	0	0	0
New Orleans	0	0	0
Shreveport	0	0	0
MAINE			
Caribou	85	135	218
Greenville (CO)	67	96	
Portland	42	47	71
MARYLAND			
Baltimore (CO)	0	0	0
Baltimore	0	0	0
Frederick	0	0	0
MASSACHUSETTS			
Blue Hill Obs.	16	18	
Boston	5	5	7
Nantucket	17	24	56
Pittsfield	37	38	88
MICHIGAN			
Alpena (CO)	18	23	135
Detroit	2	2	[illegible]
Detroit (Willow Run)	1	1	10
East Lansing (CO)	2	[illegible]	
Escanaba (CO)	25	32	157
Grand Rapids (CO)	4	4	20
Grand Rapids	4	4	43
Marquette (CO)	29	51	156
Muskegon	2	2	74
S. Ste. Marie	34	46	235
MINNESOTA			
Duluth (CO)	27	49	157
Duluth	29	53	147
Internat. Falls	43	67	188
Minneapolis	2	2	25
Rochester	9	9	62
St. Cloud	7	7	85
MISSISSIPPI			
Jackson	0	0	0
Meridian	0	0	0
Vicksburg (CO)	0	0	0
MISSOURI			
Columbia	0	0	6
Kansas City	0	0	0
St. Joseph	0	0	5
St. Louis (CO)	0	0	0
St. Louis	0	0	0
Springfield	0	0	8
MONTANA			
Billings	0	22	28
Glasgow (CO)	6	26	44
Great Falls	8	96	74
Havre (CO)	5	62	58
Helena	7	100	102
Kalispell	68	198	130
Miles City	2	4	17
Missoula	19	136	79
NEBRASKA			
Grand Island	1	1	6
Lincoln (CO)	0	0	7
Norfolk	0	0	17
North Platte	0	0	18
Omaha	0	0	5
Scottsbluff	2	2	0
Valentine (CO)	6	6	21
NEVADA			
Elko	4	51	34
Ely	2	68	66
Las Vegas	0	0	0
Reno	8	58	88
Tonopah	0	1	5
Winnemucca	4	53	17
NEW HAMPSHIRE			
Concord	23	23	68
Mt. Washington Obs.	416	767	
NEW JERSEY			
Atlantic City (CO)	0	0	0
Newark	0	0	0
Trenton (CO)	0	0	0
NEW MEXICO			
Albuquerque	0	0	0
Clayton	0	0	0
Roswell	0	0	0
NEW YORK			
Albany	12	12	24
Binghamton	14	14	79
Buffalo	3	3	46
New York (CO)	0	0	0
New York	0	0	0
Rochester	9	[illegible]	43
Schenectady	4	4	
Syracuse	6	6	29
NORTH CAROLINA			
Asheville (CO)	0	0	0
Asheville	0	0	
Charlotte	0	0	0
Greensboro	0	0	0
Hatteras (CO)	0	0	0
Raleigh	0	0	0
Wilmington	0	0	0
Winston-Salem	0	0	0
NORTH DAKOTA			
Bismarck	7	16	66
Devils Lake (CO)	20	34	108
Fargo	10	13	66
Grand Forks	13	20	
Pembina	18	21	
Williston (CO)	11	37	71
OHIO			
Akron	3	3	17
Cincinnati (CO)	0	0	0
Cincinnati	0	0	0
Cleveland	1	1	10
Columbus	0	0	8
Dayton	0	0	5
Sandusky (CO)	0	0	0
Toledo	3	3	12
Youngstown	7	7	19
OKLAHOMA			
Oklahoma City	0	0	0
Tulsa	0	0	0
OREGON			
Astoria	199	414	249
Burns (CO)	8	113	47
Eugene	70	185	67
Meacham	89	319	190
Medford	4	55	0
Pendleton	1	42	0
Portland (CO)	24	93	27
Portland	33	113	47
Roseburg	30	124	
Salem	55	151	44
Sexton Summit (CO)	82	318	157
PENNSYLVANIA			
Allentown	1	1	9
Harrisburg	0	0	0
Philadelphia (CO)	0	0	0
Philadelphia	0	0	0
Pittsburgh (CO)	0	0	0
Pittsburgh	2	2	20
Reading (CO)	0	0	5
Scranton (CO)	0	0	18
Williamsport	0	0	16
RHODE ISLAND			
Block Island	2	2	27
Providence	11	11	26
SOUTH CAROLINA			
Charleston (CO)	0	0	0
Charleston	0	0	0
Columbia	0	0	0
Florence	0	0	0
Greenville	0	0	0
Spartanburg	0	0	0
SOUTH DAKOTA			
Huron	3	3	26
Pierre	0	0	
Rapid City	0	0	56
Sioux Falls	3	3	37
TENNESSEE			
Bristol	0	0	0
Chattanooga	0	0	0
Knoxville	0	0	0
Memphis	0	0	0
Nashville	0	0	0
TEXAS			
Abilene	0	0	0
Amarillo	0	0	0
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	0	0	0
Del Rio	0	0	0
El Paso	0	0	0
Ft. Worth	0	0	0
Galveston (CO)	0	0	0
Galveston	0	0	0
TEXAS (Cont'd.)			
Houston (CO)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	0	0	0
Midland	0	0	
Port Arthur	0	0	0
San Angelo	0	0	0
San Antonro	0	0	0
Victoria	0	0	0
Waco	0	0	0
Wichita Falls	0	0	0
UTAH			
Milford	0	0	0
Salt Lake City	0	2	0
VERMONT			
Burlington	29	32	66
VIRGINIA			
Lynchburg	0	0	0
Norfolk	0	0	0
Richmond	0	0	0
Roanoke	0	0	0
WASHINGTON			
Olympia	134	294	174
Seattle (CO)	69	166	94
Seattle-Tacoma	125	277	145
Spokane	14	106	45
Stampede Pass (CO)	328	758	511
Tatoosh Island (CO)	317	644	583
Walla Walla (CO)	0	25	0
Yakima	17	78	7
WEST VIRGINIA			
Charleston	0	0	0
Elkins	1	1	40
Huntington (CO)	0	0	0
Parkersburg (CO)	0	0	0
WISCONSIN			
Green Bay	20	24	90
La Crosse	[illegible]	6	31
Madison (CO)	3	3	40
Madison	4	4	44
Milwaukee	3	3	52
WYOMING			
Casper	0	1	37
Cheyenne	12	13	72
Lander	0	6	30
Sheridan	3	24	68

Data from airport unless otherwise specified.
CO indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4

August 195

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Dell City area, El Paso County, Tex.	1	Afternoon						$38,000	Hail, wind, and rain	Hail damaged about 200 acres of cotton, mostly south of Dell City. Wind blew down trees and towers, mostly on north side of Dell City.
Greater Detroit area, Mich.	1	3:40 p.m.			2	5	$50,000		Wind, electrical and rain	Wind did considerable damage to trees and prope Lightning set several fires. Heavy rains caus flooding in some localities. 2 airmen killed their plane crashed into Lake St. Clair during storm.
Ada and vicinity, Norman County, Minn.	1	11 p.m.					Light	Considerable	Hail, wind, and rain	Minor wind damage. Moderate to heavy hail caus considerable damage to growing crops. Storm m northeastward.
Parowan Canyon, Utah	1								Rain	0.85 inch of rain in 1 hour recorded at Parowan substation, presumably heavier in mountains. D aged gardens, homes, roads, etc.
	1									Minor storms also reported near Robles, Ariz.; n Mt. Home, Ark.; near Walden, Colo.; at Plant City Pensacola, Fla.; near Richmond, Mo.; near Blai Nebr.; in Ohio; and at Sherman, Tex.
Detroit Lakes and vicinity, Becker County, Minn.	1-2	P.m.-a.m.	40				150,000		Rain, electrical, and wind	Heavy rain flooded basements, streets, and high Culverts, railroad bridges, and tracks washed as were growing crops. Heaviest unoffical rai fall of 12 inches reported at Calloway. Near Calloway, cars and a truck-trailer washed into ditch as Highway 59 was flooded. Storm moved southeastward.
Lincoln County (southern portion), Maine	2	Early morning					10,000		Electrical	Violent electrical storm. Nealy all damage fro lightning strikes at Squirrel Island, Southpor and Ocean Point. 2 cottages badly damaged and several electrical power installations hit.
Big Springs (10 miles north of), Howard County, Tex.	2	8:31 a.m.			0	0	0	0	Tornado	Tornado, not reaching ground; funnel reentered cloud 1 minute later.
Tazewell County (northern portion), Ill.	2	Morning				1	2,000	5,000	Wind	Wind damaged standing crops and a few farm buil ings with passage of severe local thunderstorm
Bristol, Sullivan County, Tenn.	2	2:30 p.m.				2	500	Slight	Electrical and rain	Bolt of lightning damaged 3 homes and shocked a woman and her baby. No serious injury resulte from this shock.
Paul (2-1/2 miles southwest of), Idaho	2	Afternoon			0	0	Minor	0	Dust devil	Called a "twister" in newspaper account, but st was probably large dust devil or "desert whirl Damage not extensive. Tree thrown across telephone lines, fence broken down, and bed torn f beet truck and badly damaged.
Winkelman, Gila County, Ariz.	2	7-8 p.m.							Wind and rain	Trees uprooted, TV antennas bent and twisted, a ings torn and roofs lifted. Worst damage suff by church, with new aluminum roof stripped and off. Aluminum strips seen hanging from nearby powerlines or lying gnarled in nearby yards.
Kent and Sussex Counties, Del.	2	P.m.					30,000		Wind, electrical, and rain	
Belle Glade-Lake Okeechobee areas Fla.	2	P.m.			0	0	Minor	Minor	Waterspouts, tornado (suspected), wind, electrical, and rain	Waterspouts over Lake Okeechobee at 1:44 p.m., 8:40 p.m. Wind damage near Belle Glade in aft noon perhaps due to tornado. 2 water heaters Belle Glade damaged by lightning.
Bayshore, Baltimore County, Md.	2	P.m.				20	5,000		Wind, electrical, and rain	
	2									Minor storms also reported at Carlinville, Ill. in Lexington area, Ky.; near Kimball, Minn.; a at Oak Ridge, Tenn.
Minnesota	2-3	P.m.-a.m.			1		54,500	Light	Rain and electrical	Heavy rains flooded basements and village streets a River. Some buildings undermined. Lowlands inund with crops damaged. Near Pease, barn set afir by lightning and destroyed, $4,500 damage. Ne Meadowlands, man in field killed by lightning.
Greene,, Wilson, Franklin, Richmond, Bertie, Lenoir Counties, N. C.	3	1-5 p.m.				2	2,000	73,000	Electrical, hail, and wind	2 persons injured by lightning at tobacco barn Bertie. Crops and property damaged over wide by hail and wind.
Gonzales, Gonzales County, Tex.	3	Afternoon							Wind, electrical, and rain	Chicken and turkey houses unroofed, and over 1, broilers killed; other buildings damaged.
Mullins area, Marion County, S.C.	3	3 p.m.			2	2			Electrical	Lightning struck tobacco barn, fatally injuring persons; 1 killed instantly; second died a sho time later.

See footnotes at end of table.

le 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
ingford (12 les west of), x Butte Coun- , Nebr.	3	4:30 p.m.	Short	Narrow	0	0	$500	$0	Tornado	One-half of large chicken house roof sheared off. Funnel cloud observed by many, reached ground only short time.
ean County, Dak.	3	Late afternoon			0	0	5,000	Slight	Tornado and wind	
er Michigan, uthern and ntral portions	3	Afternoon-evening			2		100,000		Wind, electrical, and rain	Damage scattered through central and southern Lower Michigan. High winds damaged trees and property. 2 persons killed by lightning. Several barns destroyed by lightning-set fires.
t Palm Beach miles east), Fla.	3	6:58 p.m.			0	0	0	0	Tornado	Funnel cloud, not touching surface, observed from West Palm Beach Airport office of Weather Bureau.
rtanburg, artanburg unty, S.C.	3	7 p.m.				1			Electrical	
nes County, Dak.	3	8:30 p.m.	1-1/2		0	0	75,000	75,000	Tornado (suspected), wind, and rain	Farm buildings destroyed; much swathed grain total loss; trees uprooted. Storm moved southeastward.
th Dakota, stern portion	3	Evening				1	30,000	25,000	Wind, rain, and hail	High windstorm covered nearly all of State, with greatest damage in Red River Valley and in Barnes and Williams Counties. Storm moved eastward.
son, Ariz.	3						10,000		Rain	Damaged Tucson water system.
vin (near), nal County, iz.	3				2		18,000		Rain	2 children killed when trapped in Ripsey Wash near Kelvin. Damaged railroad bed near Kelvin.
icopa County, iz.	3						30,000		Rain	Damaged roads.
hburn (14 les west of), Lean County, Dak.	3				0	0			Tornado (suspected)	Storm demolished farm buildings and snapped trees on farm while family huddled in basement.
	3									Minor storms also reported at St. David and Wickenburg, Ariz.; at Salida, Colo.; at Lake Worth, Fla. and in Ohio.
nesota, north- n portion	3-4	8 p.m.- 1:15 a.m.	10	*4		2	Moderate	Heavy	Wind, hail, and electrical	In Warren and vicinity barns, a few homes, and outbuildings damaged on several farmsteads. Shocked grain and hay scattered extensively. $40,000 damage estimated to crops in extreme northern Polk County. Light wind uprooted trees; fallen TV antennas observed at Moorhead and also at International Falls. Storm moved northeastward.
remore (near), gers County, la.	4	Afternoon			0	0	0	0	Tornado, wind, and rain	Funnel aloft observed moving southeastward.
derick, Till- n County, Okla.	4	3:30-4:10 p.m.	2	*2			10,500	Minor	Wind, rain, and electrical	Buildings unroofed. Storm moved southwestward.
iver and cinity, Colo.	4	4 p.m.	15	*10			30,000	10,000	Rain, hail, and electrical	Greatest damage to buildings and streets under construction.
estone and icinity, Pipe- tone County, nn.	4	4-5:30 p.m.							Rain, wind, and hail	Excessively heavy rains flooded basements and streets; some buildings undermined. Rain combined with wind collapsed new wall of roller rink. Some trees also blown over. Storm moved northeastward.
ckenridge, tephens Coun- , Tex.	4	6 p.m.							Wind, electrical, and rain	Wind up to 62 m.p.h., damaged windows, TV antennas, awnings, roofs, and screen of drive-in theater.
lorado, west- n portion	4	Evening					Moderate	Light	Rain	Heavy downpours caused flooding in Durango, mud and/or rock slides near Ouray, Silt, Carbondale, and New Castle.
shington and ane Counties, tah	4						°100,000		Rain	Damaged farmlands and crops, with much sugar-beet seed lost around St. George. Highway blocked near northern County line. Movie company lost equipment near Kanab.
ld County, lo.	4		60	*50	1		100,000	40,000	Rain, hail, and electrical	Damage mostly from runoff to bridges, roads, highways, and some to crops. Death caused by drowning. Storm moved southwestward.
	4									Minor storms also reported at Thomasville, Ala.; near Patagonia, Ariz.; at Needles, Calif.; and at Abilene, Tex.
st Palm Beach rea, Fla.	5	9:38 a.m.			0	0	0	0	Waterspout	Waterspout observed from Airport Office of Weather Bureau, apparently on shore of Lake Worth.
rsyth County, . C.	5	1:30 p.m.						11,000	Hail	2 square miles damaged, mostly to tobacco in fields.

ee footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Frederick (near), Tillman County, Okla.	5	2:30 p.m.			0	0	$5,000	Minor	Tornado, wind, and rain	Tornado moved northeastward.
Parker and Franktown areas, Colo.	5	2:30-3:15 p.m.	15	*5			Moderate		Rain	Some local damage. Cherry Creek bankfull; heav flow into control reservoir. Storm moved nort westward.
Lawton (near), Comanche County, Okla.	5	Afternoon			0	0	Minor	Minor	Tornado and rain	Funnel aloft observed.
Lorenzo (near), Crosby County, Tex.	5	Afternoon							Hail, wind, and rain	Hail damaged 500 to 700 acres of cotton about 5 miles north of Lorenzo.
Mandan and Bismarck, Morton and Burleigh Counties, N. Dak.	5	7:30 p.m.	15	*4		1	500,000	$3,000	Wind, rain, and hail	About a dozen houses severely damaged by wind, hundreds slightly damaged and hundreds of tree broken.
Emporia, Lyon County, Kans.	5	11 p.m.				2	1,500		Electrical	2 persons stunned, heavy roof damage, and television set damaged by bolt of lightning.
New England	5	Evening				1	25,000	5,000	Wind and rain	Thunderstorms general over New England, locally severe and damaging. Most damage from trees, blown down by wind, falling across power and phone lines.
South Dakota, northern portion	5								Hail	143 hail claims submitted in 8-county area.
	5									Minor storms also reported in Colorado City are and at Cripple Creek, Colo.; near Clinton, Win sor, and Warrensburg, Mo.; at Hildreth, Nebr.; at Trenton, S.C.; and at Chalk Creek, Utah.
Martinez area, Richmond and Columbia Counties, Ga.	6	2:30 p.m.	3	*1			Considerable		Wind, hail, and rain	Several trees uprooted and branches broken off many others. Large oak tree fell against roof house, twisting house on its foundation. Open garage blown apart. Roof of wayside curb mark damaged by hail. Many windows blown in and po and telephone lines downed.
Oberlin area, Decatur County, Kans.	6	3:20-4:30 p.m.			0	0	6,400	0	Tornado (suspected), wind, hail, and rain	Severe thunderstorm with heavy rain and some ha and shifting winds or tornado. Only damage fr wind was north of town at airport and fair grou where 3 hangars and 3 small planes damaged and roof of grandstand torn off. Strong winds rap ly changed direction from southwest to east, r of grandstand blown directly west. No actual funnel cloud observed, but heavy rain may have obscured funnel. A few trees uprooted.
Salem area, Oconee County, S. C.	6	Afternoon					10,000		Electrical	Lightning struck and burned home.
Rangely, Colo.	6	4:30 p.m.			1		500		Electrical	Lightning damaged transformers and transmission lines and killed 1 person. Storm moved northeastward.
Hastings area, Mich.	6	4:35 p.m.	1/2	100	0	1	8,000	0	Tornado, wind, and rain	Tornado hit county fairgrounds just west of Has destroying many tents, uprooting trees, and da aging several structures. 1 man injured serio when hurled over 30 feet. Newspaper clippings ported funnel seen by several witnesses. Stor moved northeastward.
Ellsworth, Ellsworth County, Kans.	6	6 p.m.							Electrical and wind	Switch and condenser at power plant damaged. Ma fuses burned out. Wind estimated at 85 m.p.h. from south blew down power poles and damaged t
Jackson County, Mich.	6	6 p.m.	7	40	0	0	2,000	1,000	Tornado, wind, and rain	Tornado first struck near Clark Lake in souther Jackson County, then apparently lifted and soo hit near Norvell. A large number of big trees uprooted, and boats tossed out of pond near No According to newspaper reports several persons ported seeing funnel in this storm. Storm mov east-northeastward.
Wilmington, Del.	6	P.m.					10,000		Wind, electrical, and rain	
Baltimore, Md.	6	P.m.					20,000		Wind, electrical, and rain	
	6									Minor storms also reported at Douglas, Bisbee, Grande, Tucson, and in Salt River Valley, Ariz in Crowley County, Colo.; at Tavernier, Fla.; Sugar Lake and Westmoreland, Kans.; and in Ohi
Utah	6-7								Rain	Severe damage in Riverton-Herriman area. Flood in Bingham Canyon and other areas in Salt Lake County. Minor flooding in Sevier County and i Fish Lake National Forest.

See footnotes at end of table.

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
ns, El Paso nty, Tex.	7	2 p.m.	3/4	*1/2					Hail, wind, electrical, and rain	30 percent hail damage on 315 acres of cotton. Crop-dusting airplane torn from moorings by wind and demolished. Storm moved westward.
a (near), sa County, a.	7	3 p.m.	5	400	0	0	Minor	Minor	Tornado, wind, and rain	Highway patrol car picked up and turned around by tornado, but with very little damage. Storm moved northeastward.
ngton area, ette County,	7	Afternoon				4	$10,000		Electrical, wind, and rain	Lightning hit homes and utility wires; wind downed TV antennas. Injuries result of lightning.
City, Okla- a County, a.	7	Afternoon			0	0	8,000	Minor	Tornado, wind, rain, and electrical	Funnel cloud observed aloft. Damage to buildings was by surface winds. Storm moved northeastward.
s-Bixby area, sa County, a.	7	4 p.m.			0	0	0	$0	Tornado, wind, and rain	Highway patrolman saw funnel aloft moving northeastward, but did see it touch ground.
ingham Coun- N. C.	7	6:30 p.m.					20,000	20,000	Hail and electrical	Damage over 5 square miles, mostly to tobacco in fields; warehouse destroyed in Madison.
England	7	Afternoon-evening			1	15	750,000		Electrical, wind, hail, and rain	Violent thunderstorms occurred in most parts of New England. Major damage from lightning-started fires and damage to utility installations. Damaging flash floods in St. Albans, Vt.; a number of sailboats capsized by treacherous winds in Marblehead Bay and Ipswich Bay, Mass. Hail up to 1/2-inch diameter in Bridgeport area, but not in tobacco belt.
on, south-, and east- portions	7	Afternoon-evening							Electrical and rain	Fairly serious fire danger when electric storms occurred over State. 4 fires started in Malheur Range, and approximately 100 men engaged in fighting them; largest on Tub Mountain, 6 miles east of Jamieson, with about 2,000 acres burned over. Some grain fields and range land burned. Several small fires started in mountains of southern and southeastern Jackson County, but shortly put out by rain that accompanied lightning. At Tulana Farms near Worden in Klamath Falls area, fire apparently started by lightning destroyed machine and repair shed with $130,000 damage. In Coos County, very small timber fire started on Sixes River and another about 3 miles west of Sugar Loaf Mountain; no signigicant damage. In all, 19 fires reported started by lightning storms in Klamath Basin. 6 reported on Sprague River, 4 more in Swan Lake area. All brought under control before damage became very great or widespread. Near Durkee, fire burned over 200 acres of pastureland and partially destroyed fence surrounding it.
etta, Love nty, Okla.	7	Early evening	15	*5			15,000	1,500	Wind, rain, and electrical	Several farm buildings damaged and utility lines broken by high winds. Storm moved eastward.
y, Blaine nty, Okla.	7	7 p.m.	15	*2			10,000	Minor	Electrical, wind, and rain	Lightning caused fires that destroyed 2 barns with grain and hay. Storm moved southeastward.
imore, Md.	7	P.m.					25,000		Wind, electrical, and rain	
rado, north- tral portion	7				1		16,000	Moderate	Rain and electrical	Heavy rains caused sudden rise in Arkansas River, which inundated farmland and city property, damaged highways and roads, and caused 1 death.
	7									Minor storms also reported at Pensacola, Fla.; near Flemingsburg, Ky.; at Raytown, Mo.; near Claremore, Okla.; in Whitefield community, S.C.; at Kingston and Pulaski, Tenn.; and in lower north Platte Valley, Wyo.
n and Sebas- n Counties,	7-8	10:30 p.m.-4 a.m.					12,000		Electrical and rain	Damage by lightning to 3 homes and 2 barns in and near Paris, Logan County. Barns with hay destroyed by fire. Minor damage by lightning to house in Huntington, Sebastian County.
Jersey, cen- l and north- tern portions	7-8	P.m.-a.m.			3	5	100,000		Rain and electrical	Heavy rain caused flooding of streets and cellars in northeastern metropolitan areas. Some cities reported over 2-inch fall in less than 1 hour. 3 persons electrocuted in Newark when wire fell on vehicle. Several minor traffic accidents caused injuries. 1 building in Roselle caved in by flood waters, damage $35,000. Lightning killed 3 cows and 2 horses near Asbury Park. 1 farm home partially destroyed by fire from lightning.
nole (near), inole Coun- Okla.	8	Afternoon	50	*30	2	3	Minor	Minor	Electrical, rain, and hail	Lightning struck tree and an automobile, killing 2 persons and injuring 3 others. These persons were near automobile, but not in it. Storm moved southeastward.
t, Parker nty, Tex.	8	3 p.m.	3		0	0	2,000	0	Tornado, wind, rain, and electrical	Tornado moving southwestward came very close to earth. Most damage to roofs. Homes, buildings, and outhouses damaged.

footnotes at end of table.

Table 4–Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Elk City, Beckham County, Okla.	8	5 p.m.	**200	50			$10,000	Minor	Wind, rain, hail, and electrical	Strong winds destroyed part of Cotton Compress Building and blew down power and telephone line in small area. Storm moved northwestward.
	8									Minor storms also reported near Prescott, Ariz.; in Bradenton and Wauchula areas, Fla.; at Lexin ton and in Richmond County, N.C.; in Ohio; at Lawton and Sulphur, Okla.; and at Cross Cut, Te
Scotia (5-1/2 miles southeast of), Greeley County, Nebr.	9	4-4:30 p.m.	2	100	0	0	1,000	$0	Tornado	12 by 60-foot cattle shed scattered, barn to whi it was attached not damaged. Cement blocks mov 200 feet. 2 barrels lifted over 3 women, wire fences, and deposited 160 rods away.
Gatesville, Coryell County, Tex.	9	5:15 p.m.			2	1	22,000		Wind, rain, and electrical	Wind blew wall of 1 building over on roof of another building, crushing 2 men in debris.
Lexington, Dawson County, Nebr.	9	5:30 p.m.	**70	33	0	0	3,000	0	Tornado (suspected)	Grandstand roof section destroyed. Debris from grandstand roof scattered at angle of 45 degree Storm struck 1 spot, lifted, then hit another s
Clinton area, Custer County, Okla.	9	8-9 p.m.					15,000	Minor	Electrical, wind, and rain	Lightning caused fire which destroyed large barı and contents and damaged utility lines. Storm moved east-northeastward.
	9									Minor storms also reported near Nashville, Kans near Holdrege and Central City, Nebr.; and at Corn and Hydro and in Lexington area, Okla.
Ada, Pontotoc County, Okla.	10	2:50 a.m.	15	*5		1	500	Minor	Electrical, wind, and rain	Lightning started fire in home; man injured in Storm moved southeastward.
Beaver Creek area, Colo.	10	3 a.m.	25	*10	1		400,000	100,000	Rain and hail	Runnoff flooded Beaver Creek drainage and town Brush, with heavy losses to livestock, highway roads, farmland, and crops.
Bay City (2 miles northeast of), Matagorda County, Tex.	10	12:30 p.m.			2				Electrical and rain	Lightning struck outbuilding and killed man and
Cheyenne Canon, Colo.	10	1-3 p.m.					10,000		Rain and hail	Storm caused rock slides and washouts and stran hundreds of motorists.
Bucksport (near), Horry County, S. C.	10	2:30 p.m.	2/10	200	0	4	10,000	0	Tornado, wind, rain, and electrical	Hurricane "Connie" was centered about 200 miles southeast. This small tormado appeared in dee northeast or east-northeast flow over area at t time. Tornado moved westward.
Custer and Pennington Counties S. Dak.	10	3-5 p.m.					26,000	Considerable	Rain and hail	In Rapid City, area of South Canyon hardest hit Streets flooded, basements filled, and culvert and bridges washed out. In Buffalo Gap, 2.58 inches of rain fell in 30 minutes. Heavy hail damage to crops and gardens. Beaver Creek in flood stage up to railroad bridge stringers.
Durham and Lincoln Counties, N. C.	10	4 p.m.						52,500	Hail	Tobacco in fields and some cotton and corn dama over 11 square miles.
Dillon (6 miles southeast of), to Latta, Dillon County, S. C.	10	6 p.m.	8	75	0	0	1,000	200	Tornado, wind, rain, and electrical	Small tornado moved west-southwestward. No unu thunderstorm activity and storm described by s persons as dark, black cloud that touched eart times. Damage occurred 6 miles southeast of D north of Floydale and Latta. While tornado no directly connected with hurricane "Connie" lyi offshore, it appeared in deep field of east-no east winds associated with hurricane.
Penderlea, Pender County, N.C.	10	6:30 p.m.	1	50	0	1	10,000	0	Tornado	5 barns destroyed and 1 woman hurt in small torn on fringe of hurricane "Connie". Tornado move westward.
Riverside and Imperial Counties, Calif.	10	9-10 p.m.					Considerable		Wind and electrical	Freak wind and lightning storm hit Palo Verde Valley and caused thousands of dollars of dama totally demolished 1 house, smashed half of re modeled house, knocked out powerlines and pole caused 1 fire, and shut off telephone faciliti between Palo Verde Valley and Salome, Ariz.
Phoenix and Avondale, Ariz.	10						120,000		Electrical	Lightning-caused fires damaged buildings.
Tucson, Ariz.	10				1				Electrical	
LaMoure County, N. Dak.	10				0	0	5,000	2,000	Tornado and wind	
	10									Minor storms also reported at St. Johns, Floren McNeal, and Tucson, Ariz.; at Turkey Creek, Co at Indianapolis, Ind.; at Cornishville and in Richland and Ilsley areas, Ky.; at Tularosa, N Mex.; in Ohio; at Cheyenne, Okla.; and in Niob County, Wyo.

See Footnotes at end of table.

ble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
ıth Carolina, ıstern portion	10-13						$89,000	$1,000	Hurricane "Connie"	Center of storm did not penetrate South Carolina coastline. Tides were 1 to 2 feet higher than normal along coast, probably being somewhat higher in Horry County area. Most damage from high tides, although rain squalls reported on 10th, 11th, and 12th in northeast. Damage estimated at $77,000 in Horry County, $11,000 in Georgetown County, and $2,000 in Charleston County.
lipatria district, Imperial ounty, Calif.	11	1 a.m.				1	Moderate	Moderate	Rain, wind, and electrical	Strong winds in Calipatria tore off roofs, blew down telephone poles, wrecked TV antennas, and flooded streets. 2 inches of rain fell in 20 minutes in some places. Agricultural losses confined to some loss of alfalfa seed and cut hay in fields. 1 person injured by lightning.
lveston (4 to 5 iles east-ortheast of), alveston County, Tex.	11	9:02 a.m.			0	0	0	0	Waterspout and rain	Waterspout moved southeastward.
lmer, Ellis ounty, Tex.	11	Noon							Electrical and rain	Lightning struck hay barn which burned to ground, destroying 100 bales alfalfa hay and a poisoning machine.
rthampton, ampshire County, Mass.	11	Late afternoon					15,000		Rain	Torrential rainstorm caused general flooding of cellars, street cave-ins, and stranded motorists in several parts of city.
	11									Minor storms also reported at Yuma, Wellton, Mohawk, and Ligurta, Ariz.
raine to Roscoe, itchell and olan Counties, ex.	12	1:37 p.m.			0	0	0	0	Tornado (suspected)	Pilot reported tornado reaching ground. No damage in area. Tornado not confirmed.
rt Pierce, la.	12	2:30 and 7:15 p.m.			0	0		Minor	Tornadoes (suspected), rain, wind, and electrical	Freak windstorms or twisters. Minor lightning damage. Trees and TV antennas broken in well defined path during second storm and in localized area during first storm. Second storm moved southeastward. 2.17 inches of rain reported.
thany Beach, el.	12	4 p.m.	3	50	0	0	3,000	0	Tornado and wind	Tree tops twisted off. Walls collapsed outward on 1 building. Tornado moved west-northwestward.
burndale, Fla.	12					1			Electrical	Injury due to lightning.
	12									Minor storm also reported at Nederland, Tex.
w England, outhern and entral portions	12-13				1	5	750,000	25,000	Hurricane "Connie"	Area affected by extreme eastern edge of hurricane "Connie". Wind damage confined to western portions of Connecticut and Massachusetts. Major damage resulted from floods and washouts especially in lowlands, and from power losses resulting from falling trees and branches. Crop loss occurred when winds ripped off netting from 300 acres of shade tobacco.
w Jersey	12-13				8	1	200,000		Hurricane "Connie"	Rain flooded streets, mainly in urban areas. Wind damaged trees, wires, and roofs. Lightning struck building in northern New Jersey and falling debris injured 1 woman. Storm moved northward.
w York	12-13					3			Hurricane "Connie"	Heavy rains of record proportions caused considerable flood damage in New York City, Long Island communities, and portions of Catskill Mountain areas. Peaches and apples blown from trees with loss estimated from 10 to 15 percent of crop, valued at thousands of dollars. Communication and powerlines broken and services by the thousands interrupted throughout southeastern, southern, and western portions. Storm moved north-northwestward.
aryland	12-13				14	20	4,000,000	2,000,000	Hurricane "Connie"	Loss of life and injuries occurred when "Levin J. Marvel" was sunk in Chesapeake Bay.
ırginia, eastern portion	12-13						1,000,000	Considerable	Hurricane "Connie"	Hurricane passed northward over Tidewater section, with center working up Chesapeake Bay. Gale-force winds occurred in immediate coastal and Bay areas, while heavy to excessive rains fell over Tidewater and generally over northern counties, with heaviest falls (around 10 inches) over lower Middle Neck and lower Eastern Shore areas and secondary peaks in Richmond-Walkerton and Big Meadows sections. Wind and water damage confined to eastern third of State with damage mostly borne by power and telephone companies, highway department, and oyster planters. Crop damage considerable. Individual damage comparatively light. Some store windows blown out, many trees down (mostly from rain softened ground rather than force of wind), streets and roads under water, lowland crops damaged, and some upland tobacco badly whipped and downed, power interruptions spotty and mostly of short duration. In Richmond about 30 houses flooded and occupants evacuated along small creek.

ee footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
North Carolina, eastern portion	12 and 17					30	$20,000,000	$60,277,700	Hurricanes "Connie" and "Diane"	Due to small time elapsing between 2 storms, damage estimates were made together.
Lake Huron (southwestern shore), Mich.	13	9 a.m. thoughout day					150,000		Wind and rain	High winds caused by hurricane "Connie", with gusts to 65 m.p.h., resulted in huge waves alor Lake Huron shoreline. These waves did considerable damage to beaches and sunk or damaged many small craft along Lake Huron shoreline from Por Huron to Harbor Beach area.
San Antonio (3 miles southeast of), Bexar County, Tex.	13	2 p.m.			1				Electrical	At Bergs Mill, 1 person killed by lightning while taking shelter under tree during thunderstorm.
Buhl, Idaho	13	6 p.m.				1			Electrical	Man knocked unconscious by bolt of lightning. Ar ficial respiration and oxygen administered and victim removed to hospital for treatment of bur
	13									Minor storms also reported near Tucson, Ariz.; a at Westby, Mont.
Pennsylvania	13-14				2 or more		Hundreds of thousands	Tens of thousands	Hurricane "Connie"	Remains of hurricane "Connie" entered south-cent Pennsylvania late on morning of August 13 and moved northwestward to near Erie by 7:30 p.m. Strongest winds and heaviest rains occurred in southeastern counties. Strongest wind reported 67 m.p.h., at Philadelphia in early morning hou Damage attributed to winds occurred mostly to trees and powerlines in scattered areas. In Er County, many fruit-laden trees suffered broken limbs and tens of thousands of dollars damage r sulted as peaches, apples, grapes, and corn wer whipped to ground. In York County, a large fai tent, valued at over $10,000, destroyed. Great damage caused by heavy rains induced by hurrica circulation for several days preceding movement storm through State. Amounts in excess of 9 inc fell in areas of Monroe, Montgomery, and Cheste Counties in period August 10 to 14. Rapid run- from brief heavy rains flooded some streets and cellars in southern Allegheny County. In Lanca County, 1 woman presumed drowned when her car w found in swollen Conestoga Creek and no trace c be found of her body. Near Coatesville, 92-yea old woman drowned when car in which she was a passenger became marooned in flash flood caused by heavy showers on already swollen creeks. Se eral fatal highway accidents throughout State attributed to heavy rains. Many summer cottage flooded and highways closed along Perkiomen Cre in Bucks County, and along French Creek in Ches County. Waters from Brandywine Creek flooded several industrial plants and some homes in low areas in Coatesville. Near Philadelphia, Neshaminy Creek overflowed, and Delaware River rose into waterfront districts of Philadelphia.
Palacios (4 miles west of), Matagorda County, Tex.	14	3:25 p.m.			0	0	0	0	Tornado, electrical, and rain	Tornado moving westward did not reach ground.
Powell, Wyo.	14	7 p.m.	20	*3			1,000,000	500,000	Hail and rain	Storm moved northeastward.
	14									Minor storms also reported at Wilmington, Del.; and near Stanford, Mont.
Daytona Beach (north of), Fla.	15	9:05 a.m.			0	0	0	0	Waterspout and rain	Waterspout occurred 15 miles north of Daytona Bea
Corpus Christi area, Nueces County, Tex.	15	1:18 p.m.			0	0	0	0	Tornado, electrical, and rain	Tornado not reaching ground observed by pilot an Navy ground personnel; moved west-northwestward
Pueblo Airport, Colo.	15	3:35-4:25 p.m.	2	*3/4			35,000		Wind, rain, and hail	Damage mostly to airplanes and airfield property Storm moved northwestward.
Purgatoire River Basin, Colo.	15	Evening					Moderate	Light	Rain	Damage mostly to roads, bridges, highways, and s crops.
Nephi, Utah	15								Rain and wind	Flooding occurred south and east of town. High winds also reported. 8,000 turkeys lost at Nep Processing Plant at loss of $24,000. Additiona damage to fields, roads, etc., estimated at $10,
	15									Minor storms also reported in Tucson area, Ariz. and at Miami, Fla.
Vida to Medicine Lake, McCone, Roosevelt, and Sheridan Counties, Mont.	16	3:30 p.m.	50-60	*5			500	160,000	Hail, rain, and electrical	Storm moved northeastward.

See footnotes at end of table.

ble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
ris and vicin- ty, Logan ounty, Ark.	16	5:45 p.m.			1		Minor		Electrical and rain	Lightning killed boy sitting under tree at Gray Rock (4 miles north of Paris). Minor damage by lightning to home in Paris.
nchester, Hills- oro County, . H.	16	Early evening					$15,000		Rain	Very heavy shower of brief duration. Nearly all damage resulting from flooding of basements and cellars, and from washouts.
izona, west- rn portion	16						°311,500		Thunderstorms	Flash floods caused extensive damage to roads, crops, and property in lowlands and washes. Damage to roads estimated at $200,000. Damage to crops and property in Mohave County estimated at $111,500.
	16									Minor storms also reported near Yuma, Ariz.; and in southern Sheridan County, Nebr.
uth Carolina	16-17						87,000	1,000	Hurricane "Diane"	Center of storm did not penetrate South Carolina coastline, but some rainsqualls in northeast and higher than normal tides along coast. Horry County $77,000, Georgetown County $10,000, and Charleston $1,000 damage.
rginia	16-18				3		Over a million	Extensive	Hurricane "Diane"	Hurricane passed northwestward through west-central part of State just east of Danville and Lynchburg and near Gordonsville, with winds diminishing considerably, but also with heavy to excessive rains over most of Piedmont and Blue Ridge areas. Concentration of excessive precipitation was in Big Meadows-Luray area where totals for storm were 11.65 inches at Big Meadows and 10.33 inches at Luray. Less than 1/2 inch fell in southwestern highlands. Wind damage practically nil for State as a whole, but flood and water damage considerable in areas of heavy to excessive rain. 3 deaths by drowning occurred. 400 primary and secondary roads closed because of floods and washouts. Record-high flow of fresh water flooding down Rappahannock River had two-fold effect in causing oyster deaths. Directly it lowered salt content of water over oyster beds. Indirectly it brought down large amounts of organic material which resulted in low oxygen content in region of high mortality. Road damage nearly $ 500,000, with about one-half occurring in Culpeper highway district. All streams out of banks, covering streets and roads; several bridges and dams washed away, and erosion was rampant. Crop damage extensive, especially to corn. In Fluvanna County near Palmyra, 35 cattle drowned in lowland pasture. In Richmond, small section flooded by "Connie" was reflooded; sewers clogged. Storm moved northeastward after passing Gordonsville.
ryland	16-18						Moderate	Minor	Hurricane "Diane"	
an Bernardino County, Calif.	17	Night (p.m.)					Considerable		Rain	Flash floods blocked Union Pacific rail connections between Los Angeles and Las Vegas at 3 places. Cloudbursts inundated Cima and Valley Wells; flood waters swept down from Cima to undermine railroad bed at East Chase, knocked out bridge at West Chase siding, and covered tracks with debris at Ivanpah. Flash flood at Valley Wells washed across U.S. Highway 91, forcing traffic halt until highway could be cleared.
verside Coun- y, Calif.	17	Late p.m.					Considerable	Considerable	Rain	Heavy rains and cloudbursts flooded Ripley near Blythe and washed out 2 bridges between Blythe and Desert Center. In south end of Palo Verde Valley some stacked alfalfa hay reported ruined, and seed alfalfa sustained heavy damage. Palo Verde Irrigation District reported rainfall of 4 inches during storm.
nticello, San Juan County, Utah	17								Rain	Considerable damage reported.
	17									Minor storms also reported in Tucson area, Ariz.; in Suffolk, Essex, and Norfolk Counties, Mass.; at Willow City, Tex.; and at Minersville, Utah.
w England, outhern portion	17-19	A.m. 17th-p.m. 19th			82	5,000	°Hundreds of millions		Hurricane "Diane"	Greatest disaster of record in Northeast. Deaths nearly all due to drownings. Rainfall totals for 24 hours and for entire storm period dwarfed all previous records. Westfield, Mass., recorded 19.75 inches in less than 60 hours with more than 18 inches of that amount falling on 18th. Maximum amounts, from 14 to nearly 20 inches, in southern Massachusetts along Connecticut and northern Rhode Island boundaries, and part of northwestern Connecticut. Areas worst hit by floods were: In Massachusetts, the Connecticut River Valley and Worcester County; in Connecticut, the Naugatuck, Housatonic, Connecticut, and upper Thames River Valleys; in Rhode Island, the Woonsocket area. More detailed summaries of this disaster contained in Climatological Data, New England Section, for August 1955, and in special publication "Hurricane

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
New England (Cont'd)										Rains and Floods of August 1955, (Carolinas to England)--Preliminary Precipitation Data." Rev data will be published in Part 3 of W. B. Technical Paper No. 26.
Pennsylvania, eastern portion	17-19				90	2,777	Tens of millions	Over a million	Hurricane "Diane" and tornado	Heavy rains associated with approach and passag of hurricane "Diane" in eastern Pennsylvania caused widespread death and destruction with p tically all damage due to flash flooding. Rai amounts for 24 to 30-hour period covering 18th early morning hours of 19th totaled as much as inches in one of heaviest centers in southwest Wayne and southeastern Lackawanna Counties. An er center in northern Monroe and southern Pike Counties totalled over 11 inches, and over 10 inches fell in area where Carbon, Luzerne, and Schuylkill Counties join. Amounts in excess o inches common throughout eastern quarter of St Rainfall heaviest during night of 18th, when a much as 7 to 9 inches fell in 6-hour period in heaviest-precipitation centers. Deaths attrib to this severe storm with its resulting floods ported by Pennsylvania Department of Civil Def to have reached 90 with 10 additional persons missing. About three-fourths of casualties occurred in Monroe County due to flooding of Cam Davis on Brodhead Creek and flooding of East Stroudsburg along Delaware River. Wayne-Pike County area ranked second on casualty list. M deaths due to drowning with several victims reported drowned while attempting to rescue othe 2 persons electrocuted by fallen wires and sev others perished in automobile accidents durin heavy rains. Several large bridges washed a and many small bridges destroyed along creeks smaller rivers in eastern counties. Delaware River flowed over its banks into many communi from Wayne County along eastern border of Sta to Philadelphia. East Stroudsburg, along Dela River in Monroe County, one of hardest hit communities. Large areas inundated in southern W County and in Lackawanna and Luzerne Counties of Scranton as heavy runoff down mountain slo swelled small streams into raging rivers. Wi spread flooding also occurred in Schuylkill C in vicinity of Tamaqua just downstream from o heavy precipitation centers. Near Honey Grove along Lancaster-Chester County line, tornado ported with funnel cloud during passage of re of hurricane Diane. Large farmhouse unroofed posing interior to heavy rains, and nearby ba damaged and corn in an adjoining field flatte Estimated tornado damage, $50,000.
Palmer area, Ellis County, Tex.	18	8 a.m.							Electrical	Lightning struck barn, destroying barn and 1,50 1,600 bales of hay.
Bronte area, Coke County, Tex.	18	Early morning	2	150-200	0	0			Tornado (suspected), hail, and rain	Trees twisted, telephone poles downed, and sev small barns damaged. Storm moved southeastw
	18									Minor storms also reported in Melvin area and San Antonio, Tex.
New Jersey	18-19				5		Millions		Hurricane "Diane"	Heavy rains of hurricane "Diane" coupled with amounts of precipitation earlier in month caus disastrous flooding in Delaware River and in s er streams. Highest river readings of all ti recorded at some points along Delaware River. homes swept away and others partially inundat Some bridges north of Trenton seriously damag New Jersey's monetary loss including property age and man hours estimated at $95,000,000. S moved eastward.
New York, southern portion	18-19				4		Millions		Hurricane "Diane"	New York State suffered little or no wind dama from storm, but accompanying torrential rains brought unprecedented flooding to southeaster counties. Damage estimated by State officials $5,000,000 to public property and $10,000,000 private property and crops
Tampa, Fla.	19	Afternoon				1			Electrical	Injury due to lightning.
Lake Osakis, Todd County, Minn.	19	P.m.			1				Electrical	Boy killed by lightning while fishing from boa Lake Osakis.
	19									Minor storms also reported in Prescott area, A in Jamestown and Boulder areas, Colo.; and in east-central Oregon.
Missauke and Crawford Counties, Mich.	19	12:10 p.m.	15	80	0	0	$3,000	0	Tornado, wind, rain, and electrial	Tornado first struck 10 miles northeast of Lak then lifted and traveled aloft for about 15 m with no further damage reported. Storm uproo

See footnotes at end of table.

ble 4–Continued

August 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
higan (Cont'd)										number of large trees and blew in end of house 10 miles northeast of Lake City. Funnel observed aloft 20 miles south of Grayling. Storm moved northeastward.
e Istokpoga miles north- st of), Fla.	20	2:10 p.m.			0	0	$0	$0	Tornado and rain	Tornado cloud observed by aircraft pilot.
quois County, l.	20	Afternoon					10,000	10,000	Wind and electrical	Locally severe thunderstorms with strong winds and lightning caused damage in a belt across County. Storm moved eastward.
er Michigan, uthwestern d northern rtions	20	Afternoon-evening			1	3	100,000		Wind, electrical, hail, and rain	High winds downed and damaged many trees and caused considerable property damage at scattered localities. Lightning killed 1 person and damaged several buildings.
	20									Minor storms also reported at McNeal, Ariz.; at Fort Gaines, Ga.; and in Lexington County, S.C.
rgeon Bay and uthward, Door unty, Wis.	21	2:30-4:30 p.m.			0	0	Moderate	Light	Waterspout, wind, electrical, and rain	Streets flooded, trees blown down, utility services interrupted, drive-in movie screen blown down. Winds observed 50 m.p.h.. Near Dyckesville cottages and boathouses damaged by falling trees, 1 car crushed, and roofs of 2 barns blown off. Lightning started 6 brush fires near Bailey's Harbor. At Riley's Point, near Little Sturgeon, waterspout observed at 2:30 p.m., diameter estimated 75 feet. Storm moved eastward.
hyrhills, a.	21	Afternoon			0	0		0	Tornado (suspected) and rain	2 trucks and wire lines in lumber yard damaged.
tucky, north-ntral areas.	21	Afternoon					10,000	8,000	Wind, hail, and rain	Wind damaged several homes and blew down large tent. Homes damaged additionally by rain coming through damaged roofs. Hail did quite a bit of damage to tobacco and corn crops.
nton (near), Witt County, l.	21	6:15 p.m.	2	500	0	0	5,000	2,000	Tornado and wind	Tornado moving northeastward hit rural area near town of Clinton.
	21									Minor storms also reported at Abbeville and Atlanta, Ga.; and in Ohio.
awa, Kent, d Ionia Coun- es, Mich.	22	Morning					40,000		Electrical, wind, and rain	Most damage caused by lightning which set several barns on fire. High winds caused minor damage.
btree, Van ren County, k.	22	Afternoon			1				Electrical	Man on front porch of home struck by lightning and killed. Others on porch not hurt. No damage to porch.
a and vicinity, lk County, k.	22	Afternoon					Considerable		Electrical, wind, and rain	Lightning caused damage to electrical equipment in a number of places. Barn struck by lightning, burned to ground. Minor wind damage.
lahoma City, klahoma Coun- y, Okla.	22	Afternoon				1	500	Minor	Wind and rain	Flagpole sitter seriously injured when pole broken during thunderstorm. Wind estimated at 75 to 80 m.p.h., by spectators.
ntsville area, hnson County, y.	22	4:30 p.m.			1		3,000	1,500	Electrical, wind, and rain	Storm caused damage to corn and other crops, and disrupted power facilities. Fatality result of being struck by lightning.
obeth, Spald- g County, Ga.	22	5 p.m.	3-4	400	0	0	500	0	Tornado (suspected), wind, rain, and hail	Damage very localized. 2 barns blown down, porch blown from 1 house, trees broken, and roofs damaged. Storm moved northeastward.
gherty County southwestern rtion), Ga.	22	P.m.		100	0	0	Minor	0	Tornado and wind	Passed over 1 farmhouse, dipped into pecan grove ripping, twisting, and splintering branches. Lifted again and passed to southeast of second farmhouse.
keysville, ltimore Coun- y, Md.	22	Late p.m.					20,000		Wind, electrical, and rain	
nsylvania	22				1		100,000		Rain, electrical, and wind	Thunderstorms associated with squall line moving through State caused flooding of streets and cellars in Erie area and numerous fires due to lightning. Barn and silo destroyed by fire caused by lightning in Wayne County; damage $10,000. High winds caused damage to trees and utility lines in Pittsburgh area. Fire caused by lightning destroyed bottling plant valued at $75,000 at Ephrata. Automobile skidding on wet streets during storm crushed man to death while he was inspecting storm damage to his building in Pittsburgh area. Storm moved eastward.
	22									Minor storms also reported near Cortaro, Ariz.; near Lincoln, Ark.; at Washington, D.C.; at Tifton, Ga.; near Shelbyville and in Covington area, Ky.;

ee footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Minor storms (Cont'd)	22									in Moore and Person Counties, N.C.; and at Amarillo, Tex.
South Dakota	22-23	Night (p.m.-a.m.)			0	1	Considerable	Considerable	Tornado, wind, hail, and electrical	Strong winds accompanied hail in southeastern counties. 483 hail claims in 20 counties. Ligh ning damaged 3 buildings and started a few gras fires. Airlines pilot sighted funnel cloud alo near Pierre. South of White Lake, wind demolis ed several farm buildings; farmhand injured by flying glass.
Arkansas City (6 miles west of), Cowley County, Kans.	23	2:45 p.m.			1				Electrical	1 man killed by lightning while riding tractor.
Lowndes County (northern portion), Miss.	23	3 p.m.					Slight	$20,000	Hail and rain	Hailstorm moved across northern Lowndes County, with considerable damage to cotton, corn, and other crops in its path.
Rushmore and vicinity, Nobles County, Minn.	23	4-6:30 p.m.	15				Heavy	Heavy	Wind, hail, electrical, and rain	Several barns moved from their foundations, seve unroofed, other outbuildings demolished by wind and corn stalks laid low. Light to heavy hail fell, some 1 inch in diameter. Near Rushmore h reported a foot deep after storm. Combined sto damage estimated at over $200,000. Storm moved southeastward.
Ardmore, Carter County, Okla.	23	4:40 p.m.					$8,000	Minor	Wind and rain	3 planes severely damaged during 18-minute thund storm; wind estimated at 60 m.p.h.
Avant, Osage County, Okla.	23	8:30 p.m.					70,000	Minor	Electrical and rain	4 business buildings and contents destroyed by f started by lightning.
Barstow district, San Bernardino County, Calif.	23	Late p.m.					1,000,000		Rain	Severe cloudburst hit area. Roads blocked, wate seeped into stores, thousands of persons strand etc.
Eloy area, Ariz.	23						3,400	15,500	Rain	Heavy rains caused flash flood.
	23									Minor storm also reported at Ponca City, Okla.
Utah, southwestern portion	23, 24, & 25								Rain	Flooding caused varying degrees of damage. Over $10,000 to roads, crops, and drainage systems near St. George.
Pipestone and vicinity, Pipestone County, Minn.	24	1-3 a.m.	40	*6			20,000	15,000	Wind, hail, electrical, and rain	Barn demolished, number of farm and town buildi damaged, some trees uprooted, and growing crops damaged. Wind damage to property estimated at $20,000; hail damage to growing crops, $15,000 Some hail reported 7/8 inch in diameter. Stor moved northeastward.
Greensboro, Fla.	24	Morning				3			Electrical	Injuries due to lightning.
Niceville, Fla.	24	Afternoon				1			Electrical	Injury due to lightning.
Pocatello, Idaho	25	1 p.m.			0	0	0	0	Tornado	Black funnel cloud observed by several persons during thunderstorm. Cloud moved from mountai west of City toward northeast. No unusual win reported; funnel cloud apparently never reache ground.
Daytona Beach, Fla.	25	8:30 p.m.				1	Minor		Electrical	Injury and property damage due to lightning.
	25									Minor storms also reported in Clark County, Nev and in Ohio.
Rexburg, Idaho	25-26	P.m.-a.m.			0	0	Several hundred	0	Tornado (suspected)	Although no funnel cloud could be seen because darkness, this was described as small tornado ripped roof off lumber storage building, knock down its 3 walls, but left lumber stored there untouched.
Wadena, Crow Wing, and Mille Lacs Counties, Minn.	25-26	P.m.-a.m.					50,000		Rain, wind, electrical, and hail	At Wadena record-breaking heavy rains, 5.25 inc in 24-hour period, flooded basements, streets, and highways, and washed out new home foundati Little damage to growing crops, however, topso on slopes washed away. Utilities disrupted. R over 5 inches also occurred at Fort Ripley, Blanc and Milaca. Damage considered light. Storm m east-southeastward.
Hennepin and Ramsey Counties Minn.	26	A.m.				1			Electrical and rain	75-foot high coal dock at St. Paul destroyed by fire started by lightning. In Minneapolis ele tric wires blown down; 1 fireman guarding "liv wires injured as automobile ran him down. Sto moved eastward.
Opal (south of), Meade County, S. Dak.	26						Minor	Considerable	Hail	Lambs, calves, chickens, and turkeys reported killed by hailstones up to golf ball and hens' size. Fields and grazing lands beaten and tre stripped. Storm moved southeastward.
	26									Minor storms also reported near Inkom, Idaho; a at Checotah, Okla.

See footnotes at end of table.

ble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
nver and Little-on areas, Colo.	26-27	6-10 p.m.	7	*2-1/2		1	$8,000		Electrical, wind, and rain	Lightning caused several fires and damage to transmission lines and trees. 1 person struck and slightly burned by lightning.
per Cook Inlet rea, Alaska	26-28				1		65,000	Slight	Wind	Storm moved generally north-northeastward from Bering Sea into Yukon Valley. It lost intensity rather rapidly by time it reached Fairbanks area by late on 28th, where only slight wind damage reported. Winds apparently strongest over Kenai Peninsula and through upper Cook Inlet, with greatest damage realized in upper Cook Inlet, including Anchorage and Palmer, because of greater concentration of damageable property in that area. Damage estimates: Local powerlines and distribution systems and communication lines in Anchorage and Palmer areas, $40,000; local 4H Fair Ground equipment, $7,000; residential and business properties, $18,000.
nver area, Colo.	27	Evening	15	*10	3	1	25,000	Light	Rain and electrical	Flooded lowlands, roads, and some business and residential properties. 3 persons died as result of storm and 1 injured by lightning.
	27									Minor storms also reported in Pikes Peak and Colorado Springs areas, Colo.; and in Campbell County, Wyo.
llmar and vicinity, Kandiyohi ounty, Minn.	28	8-11 p.m.		*10			75,000	$150,000	Wind, rain, and electrical	Several barns, outbuildings, silos, and windmills demolished; some livestock and poultry perished; trees uprooted; poles and wires downed, city buildings damaged. Several places struck by lightning with damage minor. Many corn fields badly lodged or stalks broken off. Storm moved east-southeastward.
uth Dakota, ast-central ortion	28	Evening	1-1/2		0	0	7,000	300	Tornado, hail, and wind	103 hail claims in 9 counties. Tornado reported south of Milbank; several farm buildings razed; damage listed is for this locality only. Storm moved southwestward.
	28									Minor storm also reported at Fremont, Nebr.
rt Arthur (15 iles east of), efferson County, Tex.	29	8:55 a.m.			0	0	0	0	Tornado and rain	Funnel cloud moving north-northeastward observed over Lake Sabine; did not reach ground.
nesboro (near), amilton County, Tex.	29	4:30 p.m.			1	1			Electrical, wind and rain	Man killed by lightning and small son knocked down. Storm moved southwestward.
son area, amilton County, Tex.	29	5 p.m.	1/4	17	0	0	300	0	Tornado	Tornado moving northwestward destroyed machine shed and uprooted trees.
ntoul (near), hampaign County, Ill.	29	5:30 p.m.	**Few	Few	0	0	0	0	Tornadoes	2 funnel clouds moving northeastward observed to touch ground momentarily just to north of Chanute Air Force Base near town of Rantoul.
cksonville area, organ County, ll.	29	6-6:15 p.m.	15	100	0	2	60,000	10,000	Tornado, wind, and rain	Developed 13 miles southwest of town of Jacksonville and moved 15 miles towards northeast. Northwest corner of Jacksonville experienced major damage to dwellings.
lorado, central nd southeastrn portions	29					1	25,000	25,000	Rain, hail, and electrical	Storm widespread over scattered areas from Denver southward to Pueblo thence eastward to State line.
	29									Minor storm at Callaway County, Mo.
ke Sabine, efferson County, Tex.	30	11:08 a.m.			0	0	0	0	Tornado (suspected) and rain	Funnel reported.
ngerford area, harton County, ex.	30	2:10 p.m.			0	4 or 5		0	Tornado	House destroyed.
wnsend, Schuyler ounty, N. Y.	30	4:20 p.m.	1	200	0	0	35,000	Minor	Tornado and wind	Funnel-shaped cloud observed approaching from west-southwest. Buildings "exploded" outward; tree trunks twisted off.
rkshire, Tioga ounty, N. Y.	30	4:40 p.m.			0	0	50,000	Minor	Tornado, wind, and rain	2 barns demolished, other buildings unroofed and otherwise damaged, and trees uprooted and broken.
	30									Minor storms also reported at Soda Springs, Idaho; at Winamac and in Clay Township, Ind.; and near Tuttle, Okla.
rpus Christi, ueces County, ex.	31	9:14 a.m.	1	17	0	0	0	0	Waterspouts and rain	3 small waterspouts moving westward observed over Bay east of Naval Air Station, 1 touched surface.
lacios (near), atagorda County, Tex.	31	12:35 p.m.			0	0	0	0	Waterspout and rain	Waterspout observed 4 or 5 miles south of Palacios over Bay, touching water surface.

ee footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Almeda, Harris County, Tex.	31	2:57 p.m.			0	0	$0	$0	Tornado	Pilot over Almeda reported funnel cloud, not touching ground.
Fowler area, Colo.	31	3:20-3:40 p.m.	4	*3				75,000	Hail and electrical	Storm moved southeastward.
Lakeland, Fla.	31				1		Minor		Electrical	Death and property damage due to lightning.
	31									Minor storms also reported at Orlando and Tallahassee, Fla.

° Includes damage to crops. * Miles instead of yards. ** Yards instead of miles.

Estimates of damage are based on available local information gathered by the Weather Bureau from reports of local government agencies, Red Cross, Civil Defense, and others. These data should be considered as preliminary. In many cases final damage figures will perhaps never become available.

TROPICAL STORMS AND HURRICANES OF AUGUST 1955

Three hurricanes over the Atlantic and two trop- al storms over the Gulf of Mexico were observed iring August 1955. They caused 211 deaths and image amounting to hundreds of millions of dollars. irricanes Connie (Aug. 4-13) and Diane (Aug. 11-20) ossed the North Carolina coast within 5 days of ich other in the area devastated by hurricane izel in October 1954. These two storms caused image in North Carolina totaling $80,000,000. ieir greatest effect on the economy was felt fur- ier north, however. The heavy rains of Diane, ollowing so closely those of Connie, produced loods in Pennsylvania, New Jersey, New York, and outhern New England resulting in record flood image.

Hurricane Edith (Aug. 24-31) remained over the tlantic and did not seriously affect any land reas. Tropical storm Brenda (July 31-Aug. 2) and tropical low which remained unnamed (Aug. 23-29) ich entered the coast southeast of New Orleans ith minor damage in the immediate coastal area.

The five storms of the month are discussed below chronological order. Their tracks are shown n the accompanying chart.

ropical Storm Brenda: July 31-August 2, 1955

A weak low-pressure area over the northern Gulf f Mexico on July 29 and 30 was designated Tropical torm Brenda on July 31 when it was about 100 miles outh-southeast of Burrwood, La. Winds were esti- ated at 50 to 60 m.p.h. near the center. The storm oved slowly for several hours, crossed the Louisi- na coast during the afternoon of August 1, and at p.m. was centered about 30 miles northeast of ew Orleans. After moving inland the storm weakened apidly and at 10 p.m. had reached a position 20 iles northwest of Baton Rouge, La., with the trongest winds near the center 20 to 25 m.p.h.

Two deaths occurred in automobile accidents dir- ctly attributable to the storm. Damage along the ississippi, Louisiana, and Alabama coasts was imited to small piers, fishing and pleasure craft, nd flooding of highways.

urricane Connie: August 4-13, 1955

The tropical low which developed into hurricane onnie was first detected on August 3, near 16.6°N nd 48.0°W. The low intensified gradually as it oved west-northwestward until it reached hurricane ntensity on the morning of August 5. Connie passed orth of the Virgin Islands and Puerto Rico on the th and 7th on a northwestward path at about 15 .p.h. On the 8th the rate of forward movement egan to decrease until by the 10th the storm was oving only 5 to 8 m.p.h. on a path varying from orthwest on the 9th to west on the 10th and to orth-northwest on the 11th. On the 12th Connie urned northward, entered the coast near Cape Look- ut, N. C., about 8:30 a.m., and passed a short dis- ance east of Elizabeth City about 7 p.m. The storm oved up Chesapeake Bay during the night with a radual increase in rate of forward motion, passed bout 20 miles east of Washington, D. C., and head- d northward through central Pennsylvania.

The hurricane reached its greatest intensity on he 6th and 7th with winds estimated at 145 m.p.h. he winds decreased while Connie was offshore near he North Carolina coast. The speed of the peak ust at Wilmington, N. C. was 83 m.p.h. at 7:14 p.m. n August 11, and the fastest measured mile of wind t that station was 72 m.p.h. also occurring at :14 p.m. At Fort Macon, near the storm center as it passed Morehead City, winds were estimated at 75 m.p.h.

The lowest central pressure reported in hurricane Connie was 27.88 inches on August 7, measured by dropsonde from reconnaissance aircraft. Four days later, when the storm crossed the coast, the central pressure had risen to 28.40 inches, measured at Fort Macon, N. C.

Six tornadoes were reported in the Carolinas in the circulation in advance of Connie as she approached the coast on August 10. Five occurred in South Carolina from Georgetown northward, and one near Penderlea, N. C.

Tides along the North Carolina coast from Southport to Nags Head were reported 7 feet above normal on the 11th, and the water of the coastal sounds and river mouths rose 5 to 8 feet above normal on the 12th.

From 3 to 10 inches of rain fell over eastern North Carolina as Connie moved northward. Eastern Virginia and Maryland received from 2 to 6 inches as the storm passed, and 6 to 12 inches fell over eastern Pennsylvania, New York and New Jersey. Southern New England received 4 to 6 inches of rain from Connie. These rains produced flooding in many rivers, saturated the soils and filled reservoirs, setting the stage for the disastrous floods accompanying the heavy rains of Diane during the following week.

Hurricane Diane: August 10-19, 1955

An easterly wave, which had been tracked for several days, developed a vortex and became a tropical storm on August 10 near 22°N-60°W and intensified to hurricane intensity that night. The course of the storm was northwestward, then northward, north-northeastward for a short time, then abruptly it turned westward on the 12th. On the 13th the storm wandered west-southwestward for a short time, then established a steady west-northwest course, which it followed for the next 3 days.

On the 16th the storm turned northwestward toward the North Carolina coast and crossed the coast near Wilmington on the morning of August 17, passed over Durham, N. C., in midafternoon and near Lynchburg, Va., about midnight.

While the hurricane was offshore between August 12 and 15, highest winds were estimated at 125 m.p.h. by crews of reconnaissance aircraft, but these had decreased to 75 m.p.h. along the North Carolina coast at the time the storm passed inland.

Diane, with greatly diminished winds, passed about 60 miles west of Washington, D. C., on the morning of August 18, turned northeastward to pass between Harrisburg and Philadelphia that evening. The center moved eastward across New Jersey during the night, and on the morning of the 19th was centered a short distance south of central Long Island. From there it moved east-northeastward between Martha's Vineyard and Nantucket.

A continued inflow of tropical air and orographic lifting over the foothills of Pennsylvania and southern New England added to the storm rainfall to produce excessive rains over Pennsylvania, New York, New Jersey, and New England on the 18th and 19th.

Heavy flooding occurred in parts of North Carolina, Virginia and Maryland. Record floods were experienced in eastern Pennsylvania, southeastern New York, Northern New Jersey, and southern New England, where 10 to 20 inches of rain fell on the saturated ground and swollen streams left by

Connie. These floods are described under "River and Flood Conditions-August 1955" in this issue.

Tropical Low over Eastern Gulf of Mexico
August 23-29

A weak circulation was observed near Grand Cayman on August 23. It moved north-northwestward until noon on August 26 when it developed a small well-defined center with winds of about 40 m.p.h. The center moved west-northwestward and passed inland near New Orleans about 1 a.m., August 27. From there it moved westward across Louisiana and turned northward through eastern Texas and Oklahoma toward St. Louis, Mo., where it dissipated on August 29.

The highest wind reported was 40 to 45 m.p.h. with gusts to 50 m.p.h. at New Orleans Airport. Highest tide reported was four feet above normal a short distance east of New Orleans. The lowest pressure 29.54 inches, was observed at the New Orleans Nava Air Station. Rainfall amounts of 2 to 4 inche were reported along most of the storm's path.

Hurricane Edith: August 24-31, 1955

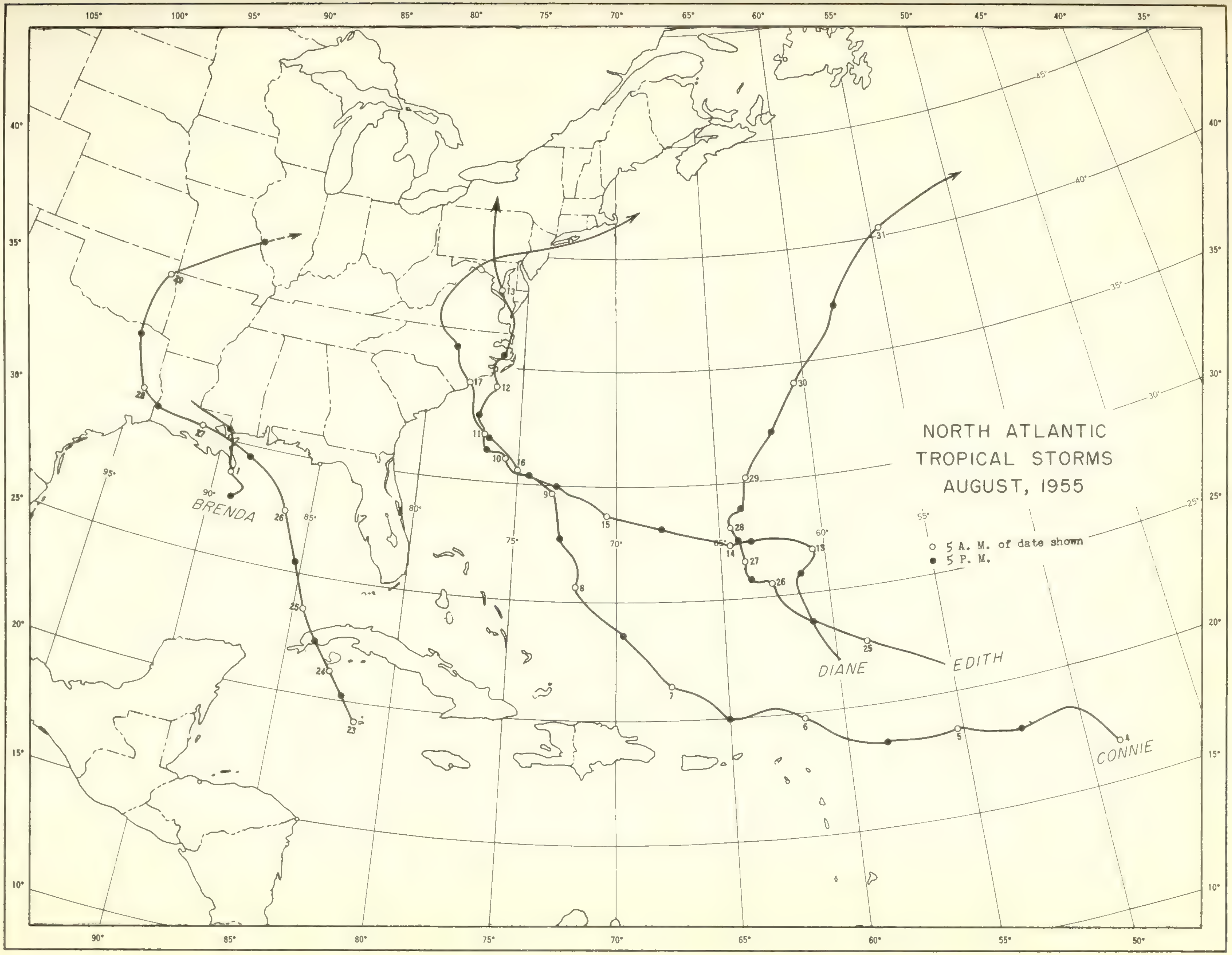
Hurricane Edith formed on August 24 in an easterl wave near 21°N-55°W. The hurricane moved towar the west-northwest until the 26th, when it turne toward the north and then north-northeast on th 28th. The entire path of the storm was over th North Atlantic Ocean east of Bermuda, and it di not directly affect any coastal areas.

Highest winds reported by aerial reconnaissanc were 90 m.p.h. on the 28th and 29th. The lowes pressure observed in the center was 29.26 inche on the 28th and 29th.

HURRICANES AND TROPICAL DISTURBANCES

AUGUST 19

Storm Name	Date	Area where first reported	Coast lines crossed	Highest wind speed reported	Lowest pressure reported	Place of dissipation reported	Intensity	Remarks
BRENDA	July 31-Aug. 2	North Gulf of Mexico	Louisiana near New Orleans	50-60 mph estimated		20-30 miles NW of Baton Rouge, La. Winds 20-25 mph.	Less than Hurricane	2 deaths
CONNIE	Aug. 4-13	Near 16.6°N and 48.0°W	N.C. Coast Cape Lookout	145 mph estimated	27.88 inches	Northern Penn. and South-western N.Y.	Hurricane	Damage estimated at $40 millio in N.C. $6 million in Md. Moderate elsewhere. 25 deaths ($1,155,000 damage in Puerto Rico)
DIANE	Aug. 11-20	Near 22°N and 60°W	N.C. Coast near Wilming-ton	125 mph estimated	29.12 inches	Southeast of Nova Scotia	Hurricane	Damage estimated in millions o dollars in N.C., S.C., Va., M Del., Pa., N.J., and N.Y. and hundreds of millions in New England. 184 deaths.
	Aug. 23-29	Near 19°N and 82°W	Louisiana near New Orleans	45 mph	29.54 inches		Tropical low	
EDITH	Aug. 24-31	Near 21°N and 55°W	(Did not cross any coast line)	90 mph estimated	29.26 inches	Near 40°N and 52°W	Hurricane	Storm remained at sea.



NORTH ATLANTIC
TROPICAL STORMS
AUGUST, 1955

○ 5 A. M. of date shown
● 5 P. M.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS - AUGUST 1955

HURRICANE DIANE FLOODS IN THE EAST, AUGUST 17-20, 1955

Torrential rains associated with Hurricane Diane produced devastating floods in southern New England, eastern Pennsylvania, southeastern New York, and northern New Jersey on August 18-20. Both rains and floods were of record proportions and resulted in tremendous property damage. The largest rainfall total reported was 19.76 inches at Westfield, Mass. The loss of life in the areas in which the Red Cross was called on to render assistance totaled 180. Several additional lives were lost in areas where floods were not severe enough to require Red Cross assistance.

The sections hit worst by the floods were: in Massachusetts, the Connecticut River Valley from Holyoke south, and Worcester County; in Connecticut, the Naugatuck, Housatonic, Connecticut, and upper Thames River Valleys; in Rhode Island, the Woonsocket area; the Catskills area in southeastern New York; the Delaware River and tributaries in northern New Jersey; in Pennsylvania, the Pocono Mountain area from Scranton to Stroudsburg, the Lehigh and upper Schuylkill Valleys, and the Delaware River area north of Philadelphia.

Principal streams affected in these areas included the Lackawanna, Lehigh, Schuylkill, and Delaware Rivers and tributaries; the lower Connecticut and its tributaries, the Farmington and Chicopee; the Naugatuck, Housatonic, upper Thames, Blackstone, and other small streams in the areas. Most of these streams exceeded all past floods in history. In western Connecticut some of the streams reached stages more than 10 feet higher than the record floods associated with the New England hurricane of September 1938.

Hurricane Diane, progressing in a northwesterly direction, moved inland in the vicinity of Wilmington, N.C., on the morning of the 17th. It passed directly over Durham, N.C., in the midafternoon of the same day and approached near Lynchburg, Va., shortly before midnight.

Most of the streams in its path rose rapidly to above flood stage as the soil was saturated from the heavy rains that accompanied Hurricane Connie less than one week before.

The accompanying table shows provisional flood crests for a few representative rivers. Comparisons are made with previous floods of record. The floods in Virginia and portions of North Carolina, Maryland, and West Virginia were damaging in some localities, but less severe than those in the Northeast.

EASTERN NORTH CAROLINA - Flooding on the Roanoke River in eastern North Carolina was generally the highest since 1949. Along the Tar and Neuse the flooding was the highest since January 1954, except in the upper reach of the Tar at Louisburg, which, according to local inhabitants, was the second highest since 1934, exceeding the flood of 1945. Along the Cape Fear the water was the highest since October 1954. The rainfall during the period from the 14th through the 18th averaged 3 to 5 inches. During the passage of Hurricane Connie, rainfall from the 10th to the 13th in eastern North Carolina ranged from 2 inches in the upper reaches to 3 to 10 inches in the middle and lower portions.

VIRGINIA, WEST VIRGINIA, AND MARYLAND - Flooding on the James River in Virginia at and below Bremo Bluff was the highest since December 1948. The Chicahominy Creek at Providence Forge, Va., exceeded the previous maximum stage of record (15 years) by 1.65 feet. All creeks and tributaries in the area overflowed their banks. Rainfall on the 16th ranged from about 7 inches at Montebello, Va., to less than 2 inches over the extreme upper portion of the James Basin.

At 11 a.m. on the 18th "Diane" was centered about 60 miles west of Washington, D.C., and moving northward. It was no longer a hurricane as the winds throughout its passage through North Carolina and Virginia were less than hurricane force. Precipitation averaged 5 inches over the Rappahannock, 3.5 inches over the Potomac, and 2.5 inches over the Monocacy Basin. Runoff from this storm was heavy as the soil was saturated from the 2- to 8-inch rains accompanying Hurricane Connie on the 13th and 14th. At Cumberland, Md., on the North Branch of the Potomac, the crest of 22.6 feet was exceeded by 1.4 feet in the flood resulting from Hurricane Hazel in October 1954. At Springfield, W. Va., on the South Branch of the Potomac, the crest of 22.3 feet was exceeded by 7.6 feet in the June 1949 flood. In the lower Potomac near Washington, D.C., at the Leiter gage, the stage of 17.6 feet was the fourth highest flood of record. Tides averaged about 4 feet above normal in the Washington area, reaching a stage of 7.1 feet (flood stage 7 feet) at the Wisconsin Ave. gage on the morning of the 18th, or 0.8 foot above the stage reached during Hurricane Connie. These abnormal tide conditions were caused by persistent easterly and southeasterly winds over the lower Potomac River preceding the Passage of Hurricane Diane to the West of Washington. Freshet conditions following the heavy rains caused high stages in the Washington Channel and a stage of 8.75 feet at the Wisconsin Ave. gage was reached on the evening of the 20th. In the Rappahannock Basin, the stages were generally the highest since October 1942.

EASTERN PENNSYLVANIA AND NEW JERSEY - During the afternoon of the 18th Hurricane Diane turned toward a more northeastward course passing between Harrisburg and Philadelphia, Pa., about 7:30 p.m. that evening. From that point, moving eastward across New Jersey during the night of the 18th and on the morning of the 19th, the center was located a short distance south of central Long Island. By evening the center was located between Martha's Vineyard and Nantucket, moving toward the east-northeast. Hurricane Diane apparently came under the influence of an upper level trough on the morning of the 18th which was crossing New York from west to east. From that time on the movement was toward the northeast or east. The continued inflow of tropical maritime air plus orographic effects were contributing factors in producing the excessive rains that fell in eastern Pennsylvania, southeastern New York, New Jersey, and southern New England, during the night of the 18th and the 19th.

Runoff was heavy as the ground was saturated from the previous 6 to 12 inches of rain that accompanied Hurricane Connie. In eastern Pennsylvania, most of the flood-producing rains occurred in the Delaware River Basin, but there was a heavy center on the Lackawanna River in the vicinity of Scranton, Pa., that resulted in record flooding in that area.

The heaviest rainfall reported in the Susquehanna Basin was 10.27 inches at Moscow, Pa. Other stations reported less than 4 inches. The crest of 20.05 feet at Old Forge, Pa., was about 5 feet above any previously recorded crest. Most of the runoff from this record flood came out of Roaring Brook and Spring Brook. These usually calm streams were turned into raging torrents, knocking out bridges, isolating people in their homes, disrupting water supply systems in Scranton and nearby cities, and causing millions of dollars of damage and loss of two lives.

Flooding on the Schuylkill River was concentrated in the narrow drainage area of the Little Schuylkill above Port Clinton, Pa. A stage of 11.2 feet was reached at Tamaqua, 3.25 feet above the 7.95-foot crest of 1942. At Port Clinton the maximum stage was 1.06 feet above that of 1942. The heavy downpour (nearly 9 inches) turned the steep streets of Tamaqua into roaring streams about 3 feet deep. The Wabash Creek, which normally flows through a storm drain from the west edge of town, found the drain inadequate and flowed over the surface. One fatality was attributed to the flood. The Little Schuylkill was about 1,000 feet wide in its southward path through the town. The "crossroads", where the north-south Route 309 crosses the east-west Route 209 in downtown Tamaqua, was inundated to a depth of 3 to 4 feet. It was closed to traffic for 24 hours. The damage to the town of Tamaqua was heavy with considerable water damage to cellars and first floors. The Atlas Powder Co. suffered serious damage. At Port Clinton there was some damage to garages, gardens, and cellars, but it was relatively minor. The only flooding along the main stem of the Schuylkill was at and below Reading, Pa. It was the first time since May 1942 that the Schuylkill had been out of its banks at Reading. Nearly half of the southern end of Pottstown, Pa., was evacuated during the night of the 18th as flood waters poured through low-lying residential streets. The flood crest reached Philadelphia on the 19th. Hundreds of families in the low-lying sections along the river banks in Chester and Montgomery Counties were forced to leave their homes. Damage in Perkiomen Creek and Schuylkill River was confined largely to inundated basements of homes and industrial plants.

Flooding was general along the Delaware River with some of the most severe flooding due to the torrents of water which poured down the small creeks. The stages at all points on the Delaware exceeded those recorded during October 10, 1903, the previous most disastrous flood in the basin.

At Port Jervis, N.Y., 1,200 persons were evacuated from the flood-isolated town. More than 100 persons were evacuated by Army and Navy Helicopters. Food and medical supplies were air-dropped to stranded motorists and campers in the area. Some 1,000 persons were evacuated from seven threatened islands in the Delaware by military helicopters. At one camp, located on Treasure Island, 400 campers were flown to safety.

The most serious flooding occurred along the Brodhead Creek, a tributary of the Delaware River on the eastern slope of the Pocono Mountains, which flows into the Delaware just east of Stroudsburg, Pa. The creek at this point reached a stage two and one-half times higher than any previous stage of record, and inundated the south section of Stroudsburg and adjoining East Stroudsburg. Roads and bridges in the area were washed out. Some 63 persons in the Stroudsburg area lost their lives. A dramatic eyewitness story of the flood tragedy at Camp Davis, near Stroudsburg, Pa., as told by one of the survivors, follows:

"A regular wall of water hit our bungalow. All the people at the camp rushed to the winter house (on high ground) and we made our way to the attic. When the water reached the attic floor, the house just fell apart and the 40 of us went tumbling into a jumble of water, boards, and screams. When I came to, I grabbed a board, then I was cast up on a pile of debris like an island. I heard children in the distance, screaming hysterically for help. I just prayed through the night. About 7 a.m. some men on shore saw me."

Downstream at Easton, Pa., the Delaware crested at a record stage of 43.7 feet, 7.8 feet above the record flood of October 1903. Easton, sometimes referred to as the Gateway to the West, was virtually cut off from the outside world by the surging flood waters of the Delaware and Lehigh Rivers. Hundreds of workers were stranded in downtown Easton. No deaths were reported in the immediate area. Two bridges connecting Easton and Philipsburg, N.J., were washed out. At Portland, Pa., the Portland Covered Bridge, a landmark built in 1869, was carried away by the flooding Delaware River. This bridge was closed to traffic two years ago when a newly erected concrete span was built nearby. From Easton southward to Philadelphia, the Delaware caused severe flooding and approximately 3,000 families were evacuated. Below Trenton, N.J., high tides prolonged and abetted the flood waters. River communities had not experienced such flooding since 1903.

Record stages were reached on the Lehigh River at Allentown and Bethlehem, Pa. Precipitation during the storm was quite uneven, ranging from 2.28 inches at Bethlehem to 10.09 inches at Gouldsboro, Pa., and averaged about 6.3 inches in the basin. Flood losses were reported at all towns along the Lehigh River, mostly to buildings and permanent installations. Most of the residential damage was at Lehighton and Freemansburg. Fifteen industries along the banks of the Lehigh River and Monocacy Creek in Bethlehem suffered heavy damage and were temporarily shut down putting at least 15,000 persons out of work. No loss of life was reported.

Severe local flooding occurred on the Lackawaxen River during the night of the 18th and the morning of the 19th. At Hawley, Pa., the river exceeded the previous maximum stage of record of 20.1 feet of May 23, 1942 by 0.5 foot.

The rainfall over the basin ranged from 4.05 inches at Pleasant Mount, Pa., to 7.46 inches at Hawley and averaged about 5.8 inches.

There was considerable damage at Hawley in the section of town near the confluence of Middle Creek with Lackawaxen River. Severe damage occurred in the business section and several bridges were washed out. Two spectators were drowned at Hawley during the flood.

According to the American Red Cross, 89 persons lost their lives in eastern Pennsylvania during this flood.

SOUTHEASTERN NEW YORK - No flood stages were reached on the major streams in the Hudson River Basin, but major to unprecedented flooding occurred in sections of southeastern New York in the Catskills and along most of the small tributary streams and their tributaries. The scene of greatest devastation occurred at the confluence of Beer Kill, Fantine Kill, and Mountain Brook, with Sandburg Creek in the Village of Ellenville. Five hundred persons in this area were driven from their homes, of which two hundred had to be evacuated. Seven homes were demolished along Beer Kill Creek. All previous flood peaks were exceeded on the Wallkill River. Damage was limited mostly to crops and highway flooding from Middletown northward. Wappinger Creek, near Wappingers Falls, N.Y., exceeded the all-time high stage reached during the hurricane flood of September 1938. Severe flooding occurred throughout its entire course. Water rose to 6 to 8 feet in the lower sections of Pleasant Valley. Damages in the Lower Hudson Watershed will average several millions of dollars with a loss of 4 lives.

SOUTHERN NEW ENGLAND - Hurricane Diane dealt a staggering blow to southern New England when its torrential rains produced rapid, widespread catastrophic floodings on the 18th and 19th. Both rains and floods were of record proportions. The rainfall over Connecticut, Rhode Island, and Massachusetts ranged from 4 to nearly 20 inches (Westfield, Mass. - 19.76 inches). The distribution of the rainfall over New England is shown in the isohyetal chart covering the entire region traversed by Hurricane Diane.

Less than a week before, Hurricane Connie deposited 4 to 6 inches of rainfall over southern New England. The ground was saturated and streams and reservoirs were running high when precipitation from Hurricane Diane began late on the 17th to overspread the region. Heavy rain fell for almost 48 hours without interruption over the tristate area. The rains in southern New England were prolonged as the storm center, which was moving eastward directly along the 40° parallel for about 12 hours from 5 p.m. of the 18th to about 5 a.m. of the 19th, recurved to an east-northeast direction paralleling the southern New England Coast. During the 24-hour period from 10 a.m. on August 18 to 9 a.m. on August 19, 12.05 inches was recorded by the Hartford Weather Bureau Airport Station located at Bradley Field, Windsor Locks, Conn. The previous maximum 24-hour rainfall of record at Hartford was 6.82 inches on July 13, 1897.

Most of the streams rose rapidly, in a matter of hours, from the beginning of the rain and reached higher stages than ever known. At Winsted, Conn., located at the junction of the Mad and Still River (tributary of Farmington River), the main street was virtually swept away during the high water in the early morning hours of the 19th. The extreme rapid runoff from the surrounding hills and the overflowing Highland Lake destroyed houses and stores, ripped up pavement, and exposed utility cables.

Destruction in the Naugatuck Valley was enormous. It was one of the worst-hit regions in New England. Some of the towns affected were Naugatuck, Torrington, Waterbury, Seymour, and Ansonia and Watertown, all in Connecticut. The Naugatuck River rose rapidly. At Naugatuck the previous maximum stage of 12.4 feet reached in December 1948 was exceeded by almost 13 feet. The entire business section was under water, completely covering a theatre marquee on the main street. Railroad tracks and highways throughout southern New England were inundated, bridges were washed away and dams destroyed.

At least 15 lives were lost in the City of Waterbury, the largest city in the Valley. The high water inflicted the worst damage in the City's history. Power lines and bridges were swept away, riverside homes and the major section of the industrial area were inundated. Helicopters helped to evacuate persons stranded on rooftops.

In the northeast portion of Connecticut, the overflowing Quinebaug River caused tremendous damage in Putnam. A magnesium plant exploded adding to the catastrophe. Firemen couldn't reach it because of the high water. The total number of dead reported in the State of Connecticut by the Red Cross was 77.

In Rhode Island, the Blackstone River caused considerable damage in the City of Woonsocket as the Rice City Dam in North Uxbridge, Mass., sent a 5-foot wall of water down the channel when it failed. It was one of the most ruinous floods in its history. Two bridges and several city streets were washed out; most of the city's industry was knocked out and more than 1,000 persons were left homeless. The previous maximum stage of 14.43 feet reached in July 1939 was exceeded by 7.5 feet as it reached a crest of 21.9 feet on the 20th. Loss of life in Rhode Island, as reported by the Red Cross, was one life.

In Massachusetts, the hardest hit area was the Connecticut Valley. The Farmington River, which rises in the Berkshires and flows into the Connecticut River below the state line, was one of the most critical spots. The towns of New Boston, Russell, and Otis were virtually isolated. Numerous residents in New Boston and Russell were evacuated by orders of the State Police. In Otis, scores of residents took flight when the water rose 3 feet over the spillway in the 27-foot high reservoir. The reservoir, located in the headwaters of the Farmington River, was built in 1888.

The Westfield River, a tributary of the Connecticut in Massachusetts, was in severe flood. The City of Westfield was completely inundated. Hundreds of persons clung to trees and rooftops and awaited rescue. The previous maximum stage of 29.4 feet reached at this point in September 1938 was exceeded by 1.8 feet when it reached a stage of 31.2 feet on the 19th.

Practically all rivers in south-central Massachusetts exceeded the previous maximum stages of record. Some of these are: The French, the Quaboag, and the Chicopee. In many instances the failure of dams contributed to the severity of the flooding.

The main stem of the Connecticut was not seriously affected except in the local area where the lower tributaries contributed to the flood peak. The heaviest damage on the mainstem occurred in the Holyoke-Springfield area which was near the center of the heaviest rainfall (19.76 inches, Westfield, Mass.). At Hartford, Conn., the crest of 30.6 feet on the 20th was the 3d highest stage of record, or 7 feet below the record stage of 37.6 feet reached in March 1936. The Red Cross reported loss of life in Massachusetts as 12 lives.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS-Continued

REPRESENTATIVE CREST STAGES OF HURRICANE DIANE FLOOD

River and Station	Flood Stage (Feet)	Present Flood		Maximum Previous Flood	
		Stage (Feet)	Date	Stage (Feet)	Date
Connecticut:					
Holyoke, Mass.	9	7.7	19	16.8	3/19/36
Springfield, Mass.	20	21.1	19	28.6	3/20/36
Hartford, Conn.	16	30.6	20	37.6	3/21/36
Lackawaxen: Hawley, Pa.	9	#20.6	19	20.1	5/23/42
Lehigh:					
Lehighton, Pa.	9	20.0	18	20.7	5/23/42
Allentown, Pa.	14	23.4	19	21.7	5/23/42
Bethlehem, Pa.	16	25.9	19	25.6	5/23/42
Perkiomen Creek: Graterford, Pa.	8	14.5	13	18.26	7/9/35
Schuylkill:					
Reading, Pa.	13	18.1	19	22.7	8/24/33
Pottstown, Pa.	14	18.1	19	21.0	2/28/02
Philadelphia, Pa.	11.5	14.3	19	approx. 17.0	10/4/69
Delaware:					
Port Jervis, N. Y.	18	23.9	19	*25.5 *23.1	3/8/04 10/10/03
Easton, Pa.	22	43.7	19	*35.9	10/10/03
Trenton, N. J.	12	20.5	20	*22.8 *20.7	3/8/04 10/11/03
Lackawanna: Old Forge, Pa.	11	20.05	19	15.3	5/23/42
North Branch: Cumberland, Md.	17	22.6	18	29.1	3/18/36
South Branch: Springfield, W.Va.	15	22.3	18	34.2	3/18/36
Shenandoah: Riverton, Va.	22	29.0	19	46.05	10/16/42
Potomac:					
Hancock, Md.	30	32.4	19	47.6	3/18/36
Harpers Ferry, W. Va.	18	23.9	20	36.5	3/19/36
Washington (nr.), D. C.	10	17.6	20	28.1	3/19/36
Rapidan:					
Rapidan, Va.	14	22.5	18	27.6	10/-/42
Remington, Va.	15	23.5	18	#30.0	10/16/42
Rappahannock: Fredericksburg, Va.	18	26.8	19	42.5	10/16/42
James:					
Columbia, Va.	18	30.4	19	37.4	9/19-20/44
Richmond, Va.	8	16.9	20	26.5	3/20/36

# High water marks
* Prior to gage records

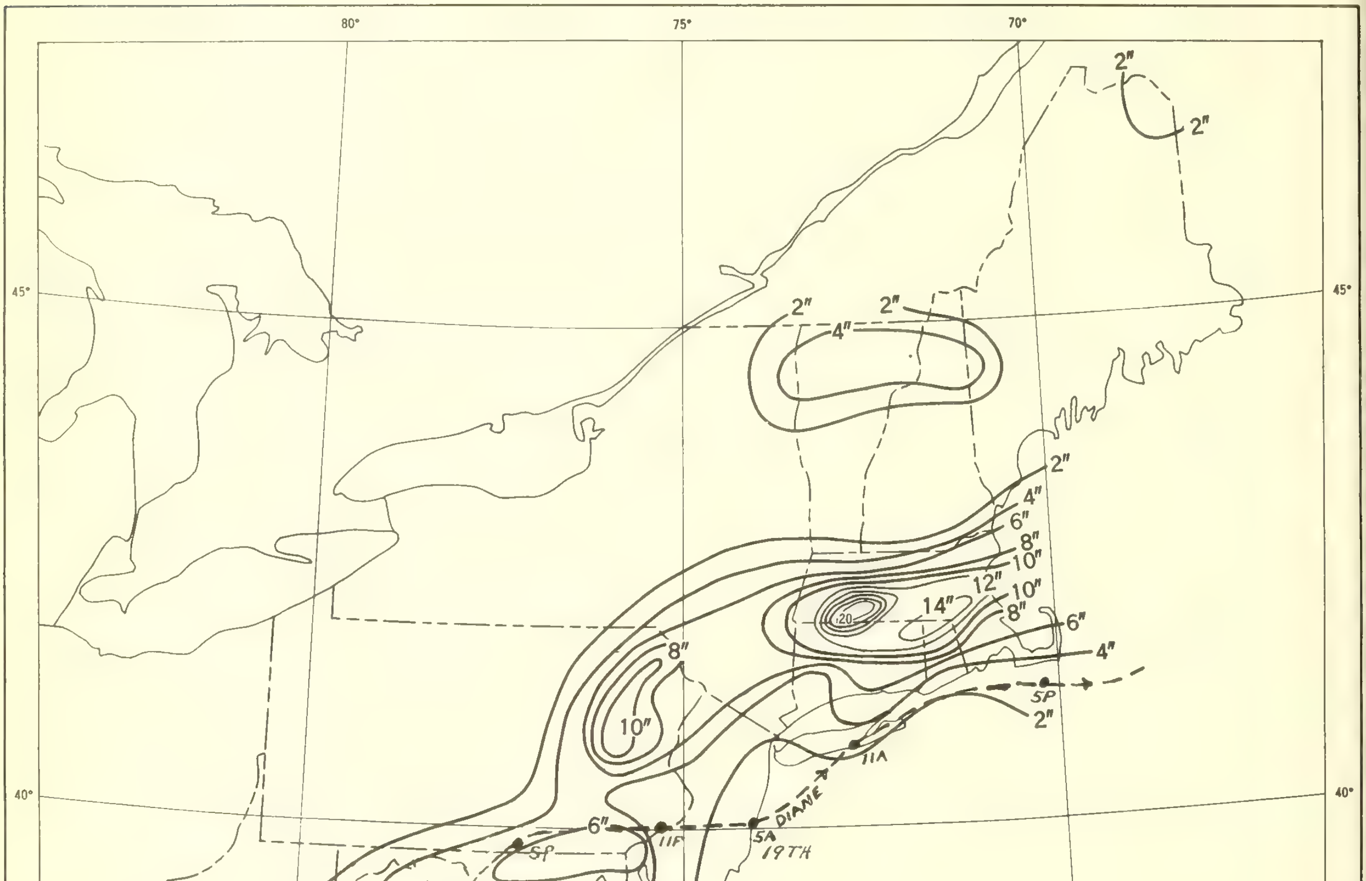


CHART 1

RAINFALL ASSOCIATED
WITH HURRICANE "DIANE"
AUGUST 16-20, 1955

BASED ON PRELIMINARY DATA.

WEATHER BUREAU, DEPARTMENT OF COMMERCE

OTHER FLOODS - AUGUST 1955

HUDSON BAY DRAINAGE

The overflow on the Buffalo River at Hawley, Minn., on August 4 was due to heavy rainfall (up to 7 inches) in the Calloway-Detroit Lakes-Lake Park, Minn., vicinity on the 2d. Some damages resulted to business places that were flooded. Traffic on transcontinental U.S. Highway No. 10 was detoured for several days. The race track, several miles west of Hawley, Minn., was inundated.

MISSISSIPPI SYSTEM

Missouri Basin.--The flooding on the Lamine River at Clifton City, Mo., and the Petite Saline River near Boonville, Mo., was due to heavy rain that accompanied the tropical disturbance that moved from the Gulf across Missouri on the 29th. A narrow band of heavy rains fell in west-central Missouri. The heaviest reported was 7.17 inches at Windsor, Mo. Property damage was not high and no lives were lost. Most of the damage was to growing crops which were partially destroyed or damaged.

The Kansas River at Wamego, Kans., reached a record low stage of -1.15 feet on August 31. The previous record low stage of -0.45 foot was set on August 1, 1954. The record low stage of 0.70 foot set on the Republican River at Concordia, Kans., on July 31 of this year was again broken on August 3, with a stage of 0.56 foot. Formerly the record low at Concordia, Kans., was 0.86 foot on September 12, 1953. The record low stage on the Marais des Cygnes at Ottawa, Kans., of 0.49 foot from December 21-31, 1953, was equaled from July 26 to August 5, inclusive.

Ohio Basin.--The heavy rains accompanying Hurricane Connie on the 13th and 14th caused the Monongahela River to rise to above flood stage at Parsons, W. Va., on the 13th. The storm duration was 18-24 hours and rainfall averaged 3.25 inches over the Cheat River Basin and an average of 2.25 inches over the lower Monongahela and Youghiogheny River Basins. Moderate to heavy rain (2.25) inches occurred again on the 18th and 19th in connection with Hurricane Diane and caused another rise to above flood stage on the Cheat at Parsons, W. Va. Flood damage during both rises was minor.

Arkansas Basin.--Flooding occurred sporadically in the Arkansas River Basin in Colorado during the month of August. Most significant periods were from the 6th to the 11th, and the 18th and 19th. Several instances of "flash flooding" occurred in mountain areas, and locally heavy precipitation amounts downstream brought some lowland flooding which threatened more general flooding.

During the afternoon of August 5, a heavy rainstorm brought a 25-foot crest to Cripple Creek at Pueblo, Colo., flooding some basements and some ground floors in the city. One parked automobile was lost when it dropped through pavement eroded near the usually dry creek bed. Considerable damage was done to street and roads, and considerable damage reported in Phantom Canyon. No casualties were reported.

Heavy shower activity in headwater areas resulted in sharp rises in the Fountain and St. Charles Rivers near Pueblo the afternoon and evening of August 6. Some overflow in bottom lands probably occurred. Two bridges were reported damaged on the Overton Road near Pinon, Colo. On the St. Charles, two off-highway bridges were reported washed out on the Burnt Mill Road, and overflow in lowlands was also probable. Shower activity was quite general and locally heavy along the mountains, with some heavy showers reported on the Arkansas above Canon City in the Parkdale and Texas Creek areas. The Arkansas did not reach flood stage upstream from Pueblo, though some bankfull or near bankfull stages did occur.

The inflow of water from the Fountain and the St. Charles, at and a few miles below Pueblo, resulted in considerable flooding of bottom lands downstream on the 6th and 7th. Some crop damage was reported on riverside farms from Baxter to below Fowler, Colo. One span of the bridge at Manzanola, not completely repaired since the May flood, went "out" or practically so and was closed, due mostly to debris causing spans to sag.

During the same general period, rains were responsible for considerable damage to county roads from washing effects. A heavy rain in the Granite area caused damage to railroad tracks and right-of-way, with water high enough to run 18 inches deep through the Denver and Rio Grande Railroad station there. Damage was reportedly limited practically to the east side of the river, and highway travel was not affected.

Localized heavy showers occurred on the 10th, when a cloudburst marooned about 250 tourists for a time at Seven Falls, in South Cheyenne Canyon, near Colorado Springs, Colo. Two automobiles were reported damaged in slides, but no injuries. This and other showery-type precipitation brought the Arkansas to near bankfull or bankfull stage again on August 11 for the area just downstream from Pueblo. Most lowlands escaped serious flooding, but some pastureland was flooded when an irrigation canal overflowed.

Heavy rains in the Weston area early on the 15th resulted in flash floods in several canyons and arroyos in that area. Bridges and roads in Wet Canyon were damaged, and some railway trackage between Weston and Segundo was damaged, but quickly repaired. This rainfall resulted in a sharp rise on the Purgatoire at Trinidad in the late afternoon and evening of the 16th, but no serious damage resulted.

WEST GULF OF MEXICO DRAINAGE

Showers during the first two weeks of the month caused minor flooding on the lower Sabine at Bon Wier and Deweyville, Tex., from the 5th to the 12th, and on the Calcasieu from Oakdale to Old Town Bay from the 5th to the 13th. Light to moderate rises occurring at the end of the month caused near bankfull stages at Mineola and Deweyville, but minor changes elsewhere. Damages were negligible.

Moderate to heavy showers in the Albuquerque, N.M., area caused moderately heavy flow on several occasions during the month. The heaviest flow occurred on the 11th when rainfall totals in the area varied from 0.46 inch to 1.29 inches. The same lowland areas that were flooded in July were again flooded in August.

The Rio Grande was running bankfull at Presidio, Tex., on August 1 and 2. There was some overflow in low places but no damage was reported. It was again running bankfull on the 31st.

The Rio Grande exceeded flood stage at Albuquerque, N. Mex., twice during the month for brief periods. During the first rise on the 11th it reached a crest stage of 6.45 feet (flood stage 6 feet) due to heavy showers over smaller tributaries to the north. The flow was at all times confined within the levees and no damage resulted. Some overflow occurred in the Socorro, N. Mex., lowland area on the 11th due to the combined heavy flow from the Rio Grande and the Rio Puerco which flows into the Rio Grande near Bernardo some 45 miles south of Albuquerque. During the second rise the Rio Grande reached a stage of 6.35 feet at Albuquerque on the 28th. The flow was confined within the levees.

GULF OF CALIFORNIA DRAINAGE

Colorado Basin.--Numerous local flash floods occurred in the mountainous regions of southern and western Arizona throughout the month due to heavy thundershowers. These floods were limited in scope, with most of the damages occurring to highways.

Great Basin.--Several flash floods occurred throughout the month from heavy local thunderstorms over the small basins and narrow canyons in the mountainous areas of Utah. It is estimated that collective damage to property, homes, crops, transportation systems, mines, water and irrigation systems, utility lines, etc., will total several hundred thousand dollars. No lives were lost.

FLOOD STAGE DATA

Table 5 (All dates in August unless otherwise specified) AUGUST 1955

River and station		Flood stage	Above flood stages -dates		Crest *	
			From–	To–	Stage	Date
		Ft.			Ft.	
ATLANTIC SLOPE						
Connecticut:	Springfield, Mass.	20	19	20	21.1	19
	Hartford, Conn.	16	19	22	30.6	20
Lackawaxen:						
	Hawley, Pa.	9	18	20	#20.6	19
Lehigh:						
	Lehighton, Pa.	9	18	20	20.0	18
	Allentown, Pa.	14	18	20	23.4	19
	Bethlehem, Pa.	16	19	20	25.9	19
Perkiomen Creek:						
	Graterford, Pa.	8	12	14	14.5	13
			18	19	14.1	14
Schuylkill:						
	Reading, Pa.	13	18	19	18.1	19
	Pottstown, Pa.	14			18.1	19
	Fairmount Dam, Philadelphia, Pa.	11.5	18	20	14.3	19
Delaware:						
	Hale Eddy, N. Y.	11	18	19	12.7	19
	Fishs Eddy, N. Y.	10.5	18	19	15.6	19
	Port Jervis, N. Y.	18	18	19	23.9	19
	Belvidere, N. J.	20	18	19	28.4	19
	Milford, Pa.				35.2	19
	Portland, Pa.				32.65	19
	Easton, Pa.	22	18	20	43.7	19
	Reigelsville, N. J.				36.6	19
	Point Pleasant, N.J.				31.3	20
	Lambertville, N. J.				24.3	20
	Yardley, Pa.				25.5	20
	Trenton, N. J.	12	19	20	20.5	20
Brandywine Creek:						
	Chadds Ford, Pa.	7	18	19	16.0	19
Lackawanna:	Old Forge, Pa.	11	18	19	20.05	19
North Branch:	Cumberland, Md.	17	18	19	22.6	18
South Branch:	Springfield, W. Va.	15	18	19	22.3	18
North Fork:	Cootes Store, Va.	15	18	18	16.6	18
Shenandoah:	Riverton, Va.	22	18	19	29.0	19
Monocacy:	Frederick, Md.	15	13	14	16.0	13
Potomac:						
	Paw Paw, W. Va.				35.4	19
	Hancock, Md.	30	19	20	32.4	19
	Williamsport, Md.	23	19	20	27.9	20
	Harpers Ferry, W.Va.	18	19	20	23.9	20
	Washington (nr), D.C.	10	19	21	17.6	20
	Washington, D.C.	7	18	18	7.1	18
			20	20	8.5	20
			20	21	8.8	20
Rapidan:	Rapidan, Va.	14	18	19	22.5	18
Rappahannock:						
	Remington, Va.	15	18	19	23.5	18
	Fredericksburg, Va.	18	18	20	26.8	19
James:						
	Bremo Bluff, Va.	19	17	19	26.7	18
	Columbia, Va.	18	17	20	30.4	19
	Richmond, Va.	8	18	20	16.9	20
Dan:	Danville, Va.	11	17	18	11.0	18
Roanoke:						
	Altavista, Va.	18	17	19	24.35	18
	Randolph, Va.	21	17	20	**26.3	19
	Weldon, N. C.	31	18	26	34.0	21
					**34.0	23
	Scotland Neck, N.C.	28	20	27	**30.4	25
	Williamston, N. C.	10	18	†	11.6	29
Tar:						
	Rocky Mount, N. C.	[illegible]	17	23	10.0	19
					11.1	22
	Tarboro, N. C.	19	19	27	**23.6	25
	Greenville, N. C.	14	20	29	**16.0	26
Neuse:						
	Neuse, N. C.	14	17	23	**19.0	21
	Smithfield, N. C.	13	17	25	**20.95	20
	Goldsboro, N. C.	14	17	31	23.9	24
	Kinston, N. C.	14	20	†	**19.6	28
Cape Fear:						
	Moncure, N. C.	20	17	18	**21.0	18
	Fayetteville, N. C.	35	17	20	41.2	19
	Elizabethtown, Lock No. 2, N. C.	20	17	24	**29.5	20

River and station		Flood stage	Above flood stages -dates		Crest*	
			From–	To–	Stage	Date
		Ft.			Ft.	
MISSISSIPPI SYSTEM Missouri Basin						
Lamine:	Clifton City, Mo.	15	30	31	20.7	31
Petite Saline:						
	Boonville (nr), Mo.	16	30	Sept. 1	22.1	31
	Ohio Basin					
Cheat:	Parsons, W. Va.	11	13	13	11.3	13
			18	18	12.1	18
WEST GULF OF MEXICO DRAINAGE						
Calcasieu:						
	Oakdale, La.	12	7	8	12.45	7
	Kinder, La.	16	5	10	19.0	[illegible]
	Old Town Bay, La.	[illegible]	6	13	5.9	7
Sabine:						
	Bon Wier, Tex.	17	5	8	19.65	6
	Deweyville, Tex.	14	[illegible]	12	14.6	9
Rio Grande:						
	Presidio, Tex.	10	1	2	10.0	1-2
	Albuquerque, N. Mex.	6	11	11	6.45	11
			28	28	6.35	28

* Provisional
** Highest stage observed
# From high water marks
† Continued at end of month

RADIOSONDE DATA

Average monthly values

Table 20

AUGUST 1955

ALBUQUERQUE, N. MEX. (840 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,619	24.2	49
1,000	31	53		
950	31	519		
900	31	1,004		
850	31	1,513		
800	31	2,045	21.9	47
750	31	2,604	17.8	51
700	31	3,188	13.0	60
650	31	3,806	7.9	68
600	31	4,462	2.9	73
550	31	5,161	- 2.0	72
500	31	5,913	- 6.3	64
450	31	6,741	-11.0	57
400	31	7,626	-16.6	46
350	30	8,617	-23.6	44
300	29	9,724	-31.9	40
250	29	10,985	-41.7	
200	29	12,458	53.5	
175	29	13,304	-59.7	
150	29	14,252	-65.8	
125	27	15,342	-70.5	
100	24	16,664	-69.7	
80	23	18,007	-65.5	
60	21	19,780	-60.2	
50	21	20,921	-58.1	
40	19	22,337	-55.0	
30	17	24,196	-51.0	
20	8	26,870	-48.2	

ANCHORAGE, ALASKA (1004 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	42	15.4	60
1,000	31	64		
950	31	498	11.3	64
900	31	945	8.1	69
850	31	1,414	4.6	74
800	31	1,905	1.4	76
750	31	2,425	- 1.5	72
700	31	2,969	- 4.2	66
650	31	3,555	- 7.5	63
600	31	4,169	-10.9	59
550	31	4,835	-14.7	55
500	31	5,549	-19.1	53
450	30	6,332	-24.3	51
400	30	7,178	-30.0	49
350	30	8,114	-37.0	47
300	30	9,160	-45.1	
250	30	10,355	-51.8	
200	30	11,799	-50.8	
175	30	12,671	-49.4	
150	30	13,680	-49.4	
125	30	14,872	-49.7	
100	29	16,329	-49.6	
80	29	17,789	-49.2	
60	26	19,670	-48.7	
50	23	20,871	-48.5	
40	19	22,335	-48.4	
30	11	24,215	-46.9	

ANNETTE, ALASKA (1014 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	37	13.1	85
1,000	31	153	12.3	85
950	31	583	9.4	83
900	31	1,028	6.6	84
850	31	1,496	4.0	83
800	31	1,987	1.9	80
750	31	2,511	- .2	72
700	31	3,056	- 2.9	65
650	31	3,645	- 6.2	59
600	31	4,262	- 9.7	51
550	31	4,933	-13.4	46
500	31	5,648	-17.9	40
450	31	6,433	-23.3	40
400	31	7,279	-29.4	40
350	31	8,218	-36.5	
300	31	9,268	-44.1	
250	31	10,469	-51.1	
200	31	11,907	-53.0	
175	31	12,768	-52.2	
150	30	13,764	-51.8	
125	30	14,943	-52.3	
100	26	16,384	-52.6	
80	24	17,828	-52.1	
60	23	19,689	-51.4	
50	18	20,877	-50.6	
40	9	22,321	-50.2	

ATLANTA, GA. (980 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	309	24.9	80
1,000	31	129		
950	31	584	25.1	67
900	31	1,057	22.5	65
850	31	1,552	19.0	68
800	31	2,071	15.3	71
750	31	2,621	11.9	67
700	31	3,191	8.9	59
650	31	3,806	6.1	51
600	31	4,454	2.7	46
550	31	5,153	- 1.3	45
500	31	5,908	- 5.5	35
450	30	6,738	-10.8	34
400	30	7,622	-16.9	35
350	29	8,609	-24.1	
300	29	9,715	-32.4	
250	29	10,974	-42.3	
200	29	12,446	-53.8	
175	28	13,293	-59.7	
150	26	14,245	-65.1	
125	24	15,347	-69.1	
100	21	16,675	-68.8	
80	19	18,019	-64.7	
60	17	19,791	-60.8	
50	16	20,927	-58.9	
40	16	22,334	-56.3	
30	16	24,182	-51.5	
20	6	26,828	-46.7	

BARROW, ALASKA (1008 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	8	1.3	93
1,000	31	72		
950	31	491	.7	75
900	31	919	1.2	68
850	31	1,379	.7	63
800	31	1,864	- .9	56
750	31	2,384	- 3.2	54
700	31	2,921	- 5.9	52
650	31	3,508	- 9.1	51
600	31	4,113	-12.6	48
550	30	4,777	-16.9	47
500	30	5,478	-21.4	47
450	29	6,251	-26.6	50
400	29	7,082	-32.6	50
350	29	8,008	-39.4	
300	29	9,043	-47.1	
250	29	10,231	-52.7	
200	29	11,678	-48.4	
175	29	12,559	-47.1	
150	29	13,579	-46.9	
125	29	14,785	-46.7	
100	29	16,264	-46.4	
80	29	17,745	-46.0	
60	28	19,656	-45.8	
50	28	20,868	-45.9	
40	26	22,352	-46.2	
30	20	24,260	-45.8	

BETHEL, ALASKA (1007 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	4	13.6	74
1,000	31	61		
950	31	490	9.4	77
900	31	935	6.3	78
850	31	1,402	3.9	76
800	31	1,893	1.7	69
750	31	2,417	- .6	65
700	31	2,961	- 3.1	58
650	31	3,548	- 6.3	52
600	31	4,166	- 9.8	49
550	31	4,836	-13.9	44
500	31	5,550	-18.5	42
450	31	6,334	-23.7	46
400	31	7,178	-29.5	49
350	31	8,116	-36.3	45
300	31	9,166	-43.9	
250	31	10,374	-48.5	
200	31	11,833	-49.5	
175	31	12,710	-48.3	
150	31	13,724	-48.6	
125	31	14,921	-49.0	
100	31	16,383	-49.2	
80	31	17,846	-49.0	
60	29	19,732	-48.6	
50	26	20,923	-48.2	
40	21	22,381	-48.3	
30	14	24,265	-47.6	

BISMARCK, N. DAK. (954 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	505	22.8	60
1,000	31	91		
950	31	546		
900	31	1,017	23.2	49
850	31	1,514	19.9	51
800	31	2,033	16.5	51
750	31	2,583	12.8	51
700	31	3,155	8.9	43
650	31	3,770	4.6	43
600	31	4,411	- .1	44
550	31	5,105	- 4.6	41
500	31	5,846	- 9.5	
450	30	6,662	-14.6	
400	30	7,534	-20.7	
350	30	8,508	-27.6	
300	29	9,597	-35.4	
250	28	10,839	-44.4	
200	28	12,306	-52.7	
175	28	13,160	-56.4	
150	28	14,129	-60.4	
125	28	15,258	-62.4	
100	25	16,632	-62.4	
80	22	18,018	-60.0	
60	19	19,818	-57.2	
50	18	20,976	-55.6	
40	18	22,403	-53.8	
30	17	24,269	-50.7	
20	11	26,922	-47.9	

BOISE, IDAHO (912 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	868	26.7	28
1,000	31	46		
950	31	509		
900	31	989	29.1	18
850	31	1,494	26.1	16
800	31	2,023	21.6	17
750	31	2,582	16.8	20
700	31	3,158	11.8	22
650	31	3,778	6.5	26
600	31	4,423	1.2	28
550	31	5,117	- 4.2	
500	31	5,861	- 9.8	
450	31	6,675	-15.6	
400	31	7,543	-21.9	
350	31	8,512	-28.9	
300	31	9,597	-36.4	
250	31	10,839	-44.1	
200	31	12,311	-51.6	
175	31	13,168	-55.6	
150	31	14,140	-59.6	
125	31	15,270	-62.3	
100	31	16,647	-62.2	
80	29	18,028	-59.6	
60	29	19,838	-56.7	
50	29	20,998	-55.0	
40	27	22,430	-53.0	
30	20	24,295	-50.5	
20	5	26,932	-47.7	

BROWNSVILLE, TEX. (1011 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	7	27.3	83
1,000	31	105	26.6	82
950	31	566	24.0	75
900	31	1,030	22.1	64
850	31	1,525	19.4	61
800	31	2,045	16.3	60
750	31	2,600	13.1	58
700	31	3,169	9.7	58
650	31	3,789	6.1	57
600	31	4,433	2.3	55
550	31	5,133	- 1.6	50
500	31	5,885	- 6.0	46
450	31	6,712	-11.0	40
400	31	7,598	-16.7	37
350	31	8,587	-23.8	34
300	30	9,693	-32.2	
250	29	10,954	-42.0	
200	28	12,425	-53.9	
175	28	13,269	-60.4	
150	28	14,214	-66.6	
125	26	15,301	-72.1	
100	25	16,607	-72.7	
80	19	17,929	-69.5	
60	15	19,668	-63.9	
50	13	20,789	-60.1	
40	13	22,194	-56.4	
30	11	24,030	-53.1	
20	5	26,678	-49.8	

BUFFALO, N. Y. (993 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	182	21.7	81
1,000	31	123		
950	31	574	22.2	68
900	31	1,040	19.1	68
850	31	1,529	15.6	70
800	31	2,042	12.7	63
750	31	2,589	10.2	57
700	31	3,152	6.8	49
650	31	3,761	3.8	43
600	30	4,406	.3	43
550	30	5,101	- 3.7	43
500	30	5,845	- 8.2	39
450	29	6,659	-13.3	
400	29	7,538	-19.0	39
350	28	8,516	-26.0	
300	28	9,613	34.1	
250	28	10,864	-43.2	
200	28	12,331	-53.5	
175	26	13,181	-58.2	
150	24	14,140	-62.5	
125	21	15,254	-64.8	
100	10	16,591	-63.2	
80	8	17,948	-60.5	
60	8	19,751	-57.3	
50	8	20,907	-55.8	
40	7	22,327	-54.1	
30	7	24,180	-51.5	
20	5	26,840	-47.5	

BURRWOOD, LA. (1013 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	3	27.1	83
1,000	31	115	26.7	79
950	31	571	24.2	75
900	31	1,041	21.6	70
850	31	1,535	18.6	67
800	31	2,053	15.4	63
750	31	2,600	12.3	60
700	31	3,174	9.2	55
650	31	3,789	5.8	51
600	31	4,436	2.1	51
550	31	5,132	- 2.0	48
500	30	5,887	- 6.1	47
450	29	6,708	-11.1	42
400	28	7,597	-16.9	39
350	28	8,585	-24.1	
300	28	9,691	-32.3	
250	28	10,951	-42.1	
200	27	12,423	-53.4	
175	27	13,271	-59.2	
150	27	14,222	-65.1	
125	26	15,318	-69.9	
100	22	16,640	-70.2	
80	20	17,975	-66.7	
60	18	19,725	-62.6	
50	18	20,857	-59.3	
40	17	22,256	-57.0	
30	15	24,090	-53.5	
20	7	26,730	-49.6	

CARIBOU, ME. (993 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	191	17.2	81
1,000	31	127		
950	31	573	17.7	67
900	31	1,029	15.0	68
850	31	1,510	12.0	69
800	31	2,015	8.8	67
750	31	2,556	5.9	61
700	31	3,109	3.0	50
650	31	3,712	.1	41
600	31	4,343	- 3.5	39
550	31	5,029	- 7.4	35
500	31	5,761	-12.3	36
450	30	6,568	-17.4	
400	30	7,430	-23.3	40
350	30	8,393	-30.0	46
300	30	9,472	-37.8	53
250	30	10,706	-45.6	
200	30	12,168	-52.2	
175	30	13,025	-55.3	
150	28	13,992	-57.7	
125	28	15,137	-59.3	
100	26	16,527	-59.0	
80	24	17,930	-57.9	
60	24	19,754	-55.7	
50	22	20,929	-54.3	
40	20	22,366	-52.8	
30	13	24,230	-50.5	

CHARLESTON, S. C. (1013 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	13	24.3	90
1,000	31	124	25.4	82
950	31	580	23.8	73
900	31	1,048	21.2	71
850	31	1,541	18.1	70
800	31	2,059	15.1	67
750	31	2,611	12.1	59
700	31	3,179	8.9	61
650	31	3,795	5.6	56
600	31	4,441	2.1	53
550	31	5,144	- 1.8	50
500	31	5,891	- 5.9	42
450	31	6,725	-11.0	37
400	31	7,604	-16.9	36
350	31	8,593	-23.9	
300	31	9,700	-32.0	
250	30	10,965	-41.8	
200	30	12,439	-53.4	
175	30	13,287	-59.4	
150	30	14,238	-65.1	
125	28	15,337	-69.7	
100	28	16,662	-69.4	
80	25	18,007	-65.3	
60	25	19,777	-60.8	
50	22	20,918	-58.3	
40	21	22,333	-55.8	
30	18	24,180	-52.1	
20	10	26,820	-48.9	

***COLD BAY, ALASKA (1004 MB.)**

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	12	27	10.3	
1,000	12	63	9.3	
950	12	487	8.3	
900	12	933	5.8	
850	12	1,398	3.4	
800	12	1,889	1.5	
750	12	2,404	- .8	
700	12	2,956	- 3.2	
650	12	3,546	- 5.7	
600	12	4,163	- 9.1	
550	12	4,833	-12.4	
500	12	5,554	-16.8	
450	12	6,341	-21.5	
400	12	7,197	-27.5	
350	12	8,142	-34.9	
300	12	9,197	-43.0	
250	12	10,403	-50.0	
200	12	11,847	-53.3	
175	12	12,709	-51.7	
150	11	13,707	-51.9	
125	11	14,885	-52.4	
100	11	16,324	-52.7	
80	11	17,769	-51.6	
60	10	19,635	-50.5	
50	9	20,819	-49.7	
40	7	22,288	-49.2	
30	6	24,185	-48.3	

COLUMBIA, MO. (987 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	238	24.6	67
1,000	31	124		
950	31	582	26.3	52
900	31	1,053	22.6	56
850	31	1,548	18.6	61
800	31	2,065	15.1	56
750	31	2,613	12.6	48
700	31	3,186	9.8	43
650	31	3,804	6.8	36
600	31	4,452	2.7	34
550	31	5,151	- 1.2	
500	31	5,905	- 6.0	
450	31	6,732	-11.6	31
400	31	7,615	-17.5	
350	31	8,600	-24.6	
300	31	9,704	-32.5	
250	31	10,963	-42.1	
200	31	12,437	-52.8	
175	31	13,287	-58.2	
150	30	14,244	-63.9	
125	30	15,347	-68.4	
100	30	16,684	-67.8	
80	28	18,035	-64.4	
60	24	19,814	-59.8	
50	22	20,957	-58.0	
40	20	22,368	54.9	
30	18	24,219	-51.2	
20	14	26,873	-47.1	
15	9	28,782	-46.2	

DODGE CITY, KANS. (925 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	792	25.9	49
1,000	31	95		
950	31	555		
900	31	1,035	26.3	45
850	31	1,536	22.8	49
800	31	2,061	18.7	55
750	31	2,614	14.5	59
700	31	3,192	10.4	59
650	31	3,810	6.6	50
600	31	4,459	3.2	40
550	31	5,158	- .9	41
500	31	5,914	- 5.2	
450	31	6,741	-10.3	38
400	30	7,631	-16.1	35
350	30	8,623	-23.2	
300	30	9,731	-31.7	
250	29	10,992	-41.9	
200	28	12,472	-52.8	
175	28	13,321	-58.7	
150	28	14,274	-64.7	
125	28	15,372	-69.5	
100	27	16,699	-69.0	
80	25	18,048	-64.7	
60	23	19,824	-60.2	
50	22	20,966	-57.4	
40	20	22,381	-54.7	
30	14	24,229	-51.2	

EL PASO, TEX. (881 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,195	26.8	47
1,000	30	55		
950	30	517		
900	31	1,002		
850	30	1,514	26.0	40
800	30	2,045	21.8	45
750	30	2,603	17.2	52
700	30	3,187	12.3	62
650	30	3,806	7.5	65
600	30	4,459	3.0	62
550	30	5,160	- 1.4	58
500	30	5,913	- 5.6	50
450	30	6,752	-10.1	35
400	30	7,634	-15.6	31
350	30	8,627	-22.6	
300	28	9,739	-31.0	
250	28	11,005	-41.0	
200	28	12,485	-52.7	
175	28	13,333	-59.2	
150	28	14,284	-65.3	
125	27	15,379	-70.7	
100	24	16,692	-71.1	
80	21	18,024	-66.5	
60	21	19,788	-60.6	
50	21	20,929	-58.4	
40	20	22,341	-55.4	
30	15	24,188	-51.9	
20	10	26,839	-48.5	

ELY, NEV. (811 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,908	21.6	42
1,000	31	46		
950	31	510		
900	31	994		
850	31	1,496		
800	31	2,027	22.9	38
750	31	2,589	19.3	38
700	31	3,175	14.6	43
650	31	3,796	9.2	49
600	31	4,453	3.4	57
550	31	5,154	- 2.3	57
500	31	5,902	- 7.5	50
450	31	6,727	-12.1	43
400	31	7,607	-17.9	37
350	31	8,592	-24.7	
300	31	9,696	-32.6	
250	31	10,955	-41.9	
200	31	12,432	-52.2	
175	31	13,285	-57.7	
150	31	14,244	-63.2	
125	30	15,353	-67.6	
100	28	16,697	-66.6	
80	26	18,057	-63.3	
60	23	19,846	-58.6	
50	23	20,996	-56.6	
40	20	22,414	-54.9	
30	12	24,243	-52.1	

FAIRBANKS, ALASKA (990 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	135	16.0	61
1,000	31	52		
950	31	483	12.6	61
900	31	937	8.8	66
850	31	1,406	4.9	71
800	31	1,898	1.3	73
750	31	2,418	- 2.1	72
700	31	2,959	- 5.0	66
650	31	3,544	- 8.1	62
600	31	4,156	-11.8	54
550	31	4,819	-15.9	51
500	31	5,528	-20.7	48
450	31	6,306	-26.1	46
400	31	7,140	-32.0	46
350	31	8,069	-38.8	
300	31	9,108	-46.1	
250	31	10,301	-51.9	
200	31	11,748	-49.9	
175	31	12,624	-48.5	
150	31	13,636	-48.4	
125	31	14,835	-48.5	
100	31	16,301	-48.7	
80	31	17,768	-48.2	
60	31	19,661	-48.0	
50	30	20,866	-48.1	
40	26	22,352	-47.9	
30	10	24,261	-46.8	

FORT HUACHUCA, ARIZ. (858 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,428	23.2	66
1,000	30	61		
950	30	524		
900	30	1,007		
850	30	1,506	22.9	65
800	30	2,033	20.0	63
750	30	2,591	15.9	65
700	30	3,170	-11.6	68
650	30	3,788	7.3	71
600	30	4,441	2.8	70
550	29	5,140	- 1.7	72
500	29	5,894	- 6.2	67
450	28	6,720	-11.0	57
400	27	7,605	-16.9	49
350	25	8,593	-23.3	40
300	23	9,702	-31.4	41
250	19	10,967	-41.5	
200	17	12,440	-53.7	
175	15	13,285	-60.3	
150	9	14,238	-66.6	

GLASGOW, MONT. (938 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	648	24.1	36
1,000	31	75		
950	31	534		
900	31	1,007	24.3	30
850	31	1,503	20.4	33
800	31	2,022	16.0	38
750	31	2,572	11.8	39
700	31	3,139	7.5	40
650	31	3,745	3.0	40
600	30	4,388	- 1.6	38
550	30	5,073	- 6.3	
500	30	5,813	-11.5	
450	30	6,621	-17.1	
400	30	7,485	-23.3	
350	30	8,448	-30.6	
300	30	9,524	-38.5	
250	30	10,756	-46.1	
200	30	12,217	-52.0	
175	29	13,077	-55.0	
150	27	14,051	-57.9	
125	27	15,194	-59.8	
100	26	16,584	-59.4	
80	25	17,987	-57.6	
60	24	19,809	-54.9	
50	24	20,976	-53.7	
40	24	22,416	-51.8	
30	22	24,287	-49.4	
20	12	26,970	-46.8	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb.)	GRAND JUNCTION, COLO. (853 MB.)				GREAT FALLS, MONT. (887 MB.)				GREEN BAY, WIS (990 MB.)				GREENSBORO, N. C. (984 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,474	25.1	42	31	1,123	23.5	29	31	210	21.5	75	31	273	22.8	90
1,000	31	44			31	59			31	122			31	131		
950	31	507			31	522			31	574	22.8	61	31	584	23.7	74
900	31	991			31	997			31	1,040	19.9	59	31	1,053	20.9	73
850	31	1,501	25.4	42	31	1,496	22.7	27	31	1,530	16.7	59	31	1,546	17.8	72
800	31	2,033	23.7	38	31	2,019	18.4	30	31	2,045	13.7	54	31	2,063	14.5	72
750	31	2,597	19.3	41	31	2,573	13.6	35	31	2,592	10.7	47	31	2,610	11.5	63
700	31	3,182	14.2	48	31	3,144	8.6	41	31	3,158	7.5	41	31	3,181	8.6	53
650	31	3,804	9.0	56	31	3,755	3.7	42	31	3,767	3.7	43	31	3,797	5.6	47
600	31	4,460	3.5	65	31	4,397	- .9	34	31	4,409	- .5	43	31	4,443	2.2	47
550	31	5,160	- 1.6	66	31	5,085	- 5.8	34	31	5,100	- 4.5	41	30	5,145	- 1.6	40
500	31	5,913	- 6.6	62	31	5,825	-11.5	32	31	5,844	- 8.8	36	30	5,894	- 6.0	42
450	31	6,741	-11.3	53	30	6,636	-17.3		31	6,663	-13.6	35	30	6,724	-11.0	41
400	31	7,625	-16.9	44	30	7,499	-23.8		31	7,539	-19.7		30	7,608	-16.7	33
350	31	8,613	-23.6	36	30	8,459	-31.1		31	8,517	-26.6	36	30	8,596	-23.7	
300	31	9,722	-31.7		30	9,534	-38.9		31	9,611	-34.5		30	9,703	-32.0	
250	31	10,984	-41.5		30	10,761	-46.5		31	10,860	-43.7		30	10,965	-41.7	
200	31	12,462	-52.7		30	12,219	-52.2		31	12,330	-52.5		29	12,441	-52.8	
175	31	13,311	-58.7		30	13,078	-54.8		31	13,183	-57.0		29	13,290	-58.8	
150	31	14,264	-64.8		30	14,057	-57.3		31	14,148	-61.4		29	14,243	-64.6	
125	30	15,362	-69.2		29	15,203	-59.4		31	15,267	-64.5		27	15,350	-68.0	
100	26	16,692	-68.4		28	16,594	-60.0		29	16,634	-64.1		27	16,687	-68.2	
80	22	18,035	-64.1		28	17,991	-57.9		28	18,011	-61.1		26	18,036	-63.9	
60	22	19,816	-59.5		28	19,813	-55.4		26	19,805	-57.9		25	19,820	-59.5	
50	18	20,956	-57.2		27	20,978	-54.3		25	20,958	-55.9		24	20,965	-57.6	
40	15	22,379	-53.9		26	22,420	-51.7		24	22,380	-53.8		21	22,385	-54.5	
30	15	24,237	-51.4		24	24,285	-49.7		19	24,238	-51.0		16	24,239	-51.3	
20					16	26,966	-46.1		8	26,898	-48.2		5	26,861	-48.3	

Standard pressure surface (mb.)	HATTERAS, N. C. (1014 MB.)				HILO, T. H. (1015 MB.)				INTERNAT. FALLS, MINN. (972 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	3	25.9	84	31	9	25.1	71	31	360	18.3	80
1,000	31	124	25.3	83	31	140	23.0	71	31	108		
950	31	575	22.5	80	31	588	19.3	77	31	557	20.2	65
900	31	1,044	20.3	71	31	1,049	15.7	82	31	1,021	17.7	65
850	31	1,536	17.9	65	31	1,532	12.7	82	31	1,507	14.6	64
800	31	2,053	14.7	67	31	2,041	10.7	74	31	2,017	11.5	57
750	31	2,602	11.9	59	31	2,588	9.7	53	31	2,561	9.0	43
700	31	3,172	8.9	55	31	3,151	8.5	34	31	3,122	5.9	38
650	31	3,788	5.8	48	31	3,769	6.1		31	3,730	2.3	33
600	31	4,433	2.5	42	31	4,413	3.4		31	4,367	- 1.5	32
550	31	5,137	- 1.1	40	31	5,113	- .1		31	5,056	- 6.1	32
500	31	5,886	- 5.9	39	31	5,871	- 4.9		31	5,793	-10.7	
450	31	6,715	-11.2	35	31	6,697	-10.8		31	6,602	-15.8	
400	31	7,598	-16.6		31	7,585	-17.6		30	7,473	-22.2	
350	31	8,587	-23.3		31	8,569	-25.6		30	8,440	-29.5	
300	31	9,697	-31.5		31	9,666	-34.7		30	9,522	-37.1	
250	31	10,960	-41.1		31	10,911	-45.1		30	10,759	-45.3	
200	31	12,439	-52.2		31	12,363	-56.7		30	12,224	-51.8	
175	29	13,288	-58.2		31	13,197	-62.8		30	13,083	-54.8	
150	26	14,248	-63.8		31	14,133	-68.6		30	14,060	-58.0	
125	25	15,355	-68.3		31	15,215	-71.9		28	15,193	-60.0	
100	24	16,687	-68.3		31	16,523	-73.1		22	16,576	-58.8	
80	24	18,036	-64.6		29	17,840	-69.6		22	17,983	-57.1	
60	23	19,808	-59.4		29	19,577	-63.8		21	19,810	-55.5	
50	23	20,954	-57.4		27	20,702	-60.7		21	20,976	-54.0	
40	23	22,370	-54.7		25	22,098	-58.3		19	22,411	-52.1	
30	22	24,220	-51.9		19	23,922	-54.5		16	24,287	-49.5	
20	11	26,857	-48.3									

Standard pressure surface (mb.)	KOTZEBUE, ALASKA (1005 MB.)				LAKE CHARLES, LA. (1013 MB.)				LANDER, WYO. (831 MB.)				LAS VEGAS, NEV. (934 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	5	12.2	77	31	5	26.3	83	31	1,696	22.7	38	31	660	32.3	33
1,000	31	48			31	116	26.7	77	31	42			31	38		
950	31	481	9.4	69	31	579	24.6	73	31	505			31	508		
900	31	923	6.6	69	31	1,042	21.4	75	31	988			31	994	31.3	32
850	31	1,390	3.9	68	31	1,536	18.1	76	31	1,495			31	1,503	27.2	36
800	31	1,880	1.2	66	31	2,053	15.3	68	31	2,025	23.3	28	31	2,035	22.8	42
750	31	2,402	- 1.7	65	31	2,604	12.3	62	31	2,587	18.8	31	31	2,599	17.9	48
700	31	2,943	- 4.3	60	31	3,174	9.2	57	31	3,170	13.8	37	31	3,179	12.9	54
650	31	3,531	- 7.4	55	31	3,790	6.2	49	31	3,793	8.5	44	31	3,803	8.0	59
600	31	4,144	-10.7	50	31	4,437	2.5	48	31	4,445	2.9	52	30	4,452	3.1	57
550	31	4,810	-14.9	46	31	5,140	- 1.5	48	31	5,139	- 2.7	56	30	5,159	- 1.6	57
500	31	5,522	-19.6	43	31	5,889	- 5.7	46	31	5,891	- 8.2	55	30	5,906	- 6.2	47
450	31	6,303	-25.0	44	31	6,720	-10.5	42	31	6,709	-13.2	46	30	6,734	-11.3	42
400	31	7,142	-31.0	42	30	7,606	-16.5	37	31	7,589	-18.8		29	7,617	-17.2	
350	31	8,075	-38.2		27	8,597	-23.5		31	8,570	-25.9		28	8,604	-24.1	
300	31	9,116	-46.1		27	9,705	-31.8		31	9,667	-33.9		28	9,710	-32.3	
250	31	10,308	-52.0		26	10,966	-41.4		31	10,919	-42.9		28	10,969	-42.0	
200	31	11,757	-49.5		26	12,444	-52.8		31	12,390	-52.8		28	12,442	-53.5	
175	31	12,634	-47.9		25	13,292	-58.8		30	13,239	-57.4		28	13,288	-59.2	
150	31	13,650	-47.6		25	14,244	-64.8		30	14,202	-62.0		27	14,238	-65.8	
125	31	14,853	-47.8		24	15,346	-68.9		29	15,315	-65.8		27	15,330	-70.4	
100	31	16,324	-47.5		21	16,671	-69.7		27	16,666	-65.5		22	16,651	-69.2	
80	31	17,797	-47.5		17	18,008	-66.0		26	18,030	-61.3		15	17,998	-64.0	
60	31	19,697	-47.3		12	19,783	-60.6		22	19,828	-57.6		13	19,779	-60.9	
50	30	20,905	-47.3		11	20,927	-58.9		22	20,981	-56.1		12	20,922	-58.1	
40	29	22,382	-47.6		[illegible]	22,330	-55.8		21	22,408	-53.5		12	22,336	-55.3	
30	23	24,302	-47.5		7	24,197	-50.6		18	24,273	-50.6		12	24,186	-51.8	
20	5	27,050	-45.6						5	26,976	-47.6		7	26,834	-48.4	

Standard pressure surface (mb.)	LITTLE ROCK, ARK. (1004 MB.)				MAZATLAN, MEXICO (1008 MB.)				MC GRATH, ALASKA (995 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	79	25.9	75	28	14	28.6	76	31	103	15.0	63
1,000	31	118	26.4	71	28	83	28.1	77	31	56		
950	31	578	25.2	62	28	542	25.0	82	31	489	11.5	66
900	31	1,045	21.7	65	28	1,014	22.7	82	31	938	7.9	71
850	31	1,539	18.1	67	28	1,511	20.0	81	31	1,406	4.3	74
800	31	2,055	14.7	66	28	2,033	17.1	79	31	1,897	1.2	75
750	31	2,607	12.0	59	28	2,589	14.2	76	31	2,418	- 1.8	70
700	31	3,174	8.8	56	27	3,164	10.8	74	31	2,959	- 4.6	66
650	30	3,790	5.7	49	24	3,784	6.9	74	31	3,546	- 7.5	60
600	30	4,435	2.3	47	23	4,433	2.9	73	31	4,159	-11.0	57
550	28	5,139	- 1.5	40	23	5,133	- 1.4	76	31	4,825	-15.2	50
500	28	5,887	- 5.7	31	21	5,888	- 5.7	72	31	5,535	-20.0	46
450	28	6,719	-10.8	32	21	6,715	-10.3	67	31	6,316	-25.4	46
400	28	7,601	-16.9	29	18	7,607	-15.5		31	7,153	-31.1	48
350	28	8,589	-23.8		14	8,601	-22.6		31	8,084	-38.5	47
300	28	9,696	-32.0		13	9,713	-30.9		31	9,124	-46.1	
250	28	10,958	-41.5		12	10,976	-40.9		31	10,319	-50.6	
200	28	12,436	-52.2		10	12,455	-53.0		31	11,773	-49.6	
175	28	13,288	-58.0		10	13,302	-59.9		31	12,647	-48.6	
150	28	14,245	-64.0		6	14,249	-66.4		31	13,659	-48.7	
125	25	15,342	-68.6						31	14,855	-48.7	
100	24	16,672	-68.7						29	16,324	-49.0	
80	24	18,016	-65.5						29	17,787	-48.6	
60	23	19,789	-60.1						28	19,677	-48.3	
50	23	20,931	-58.4						28	20,876	-48.0	
40	18	22,338	-55.3						28	22,345	-48.0	
30	17	24,187	-51.1						24	24,241	-46.6	
20												

Standard pressure surface (mb.)	MEDFORD, ORE. (967 MB.)				MERIDA, MEXICO (1011 MB.)				MIAMI, FLA. (1013 MB.)				MIDLAND, TEXAS (915 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	401	27.0	28	31	27	26.2	83	31	4	26.5	84	31	871	27.7	42
1,000	31	98			31	128	25.8	81	31	123	26.4	79	31	73		
950	31	559	26.2	28	31	588	24.0	76	31	577	23.9	77	31	537		
900	31	1,026	22.6	32	31	1,052	21.4	74	31	1,046	21.1	74	31	1,017	27.7	40
850	31	1,520	18.8	35	31	1,546	18.5	70	31	1,539	18.2	69	31	1,521	24.0	45
800	31	2,037	15.2	37	31	2,064	15.5	65	31	2,057	15.2	64	31	2,048	19.5	52
750	31	2,588	11.8	38	31	2,609	12.4	58	31	2,601	12.0	59	31	2,603	14.9	59
700	31	3,154	8.4	30	31	3,185	9.0	56	31	3,176	8.8	56	31	3,179	10.3	62
650	31	3,767	4.5	23	31	3,800	5.2	59	31	3,789	5.2	57	31	3,799	6.1	55
600	31	4,408	0.0		31	4,445	1.5	60	31	4,435	1.5	59	31	4,444	2.4	48
550	31	5,101	- 4.7		31	5,139	- 2.3	63	31	5,127	- 2.6	57	31	5,145	- 1.6	47
500	31	5,841	-10.2		31	5,892	- 6.6	64	31	5,881	- 7.0	50	31	5,895	- 5.8	41
450	31	6,654	-16.2		31	6,716	-11.7	64	31	6,702	-11.8	47	31	6,729	-10.6	33
400	31	7,520	-22.8		31	7,601	-17.5	62	31	7,589	-17.5	40	31	7,612	-16.6	29
350	31	8,484	-30.1		31	8,586	-24.7	54	31	8,574	-24.4	38	31	8,600	-23.8	
300	31	9,563	-38.3		31	9,687	-33.4	50	31	9,678	-32.4	34	31	9,706	-32.1	
250	31	10,795	-46.0		30	10,939	-43.8		30	10,937	-42.3		30	10,968	-41.8	
200	31	12,259	-52.0		30	12,395	-56.5		30	12,406	-54.3		30	12,441	-53.1	
175	30	13,122	-55.4		29	13,229	-63.3		29	13,250	-60.7		30	13,289	-59.1	
150	30	14,096	-59.0		29	14,160	-69.8		29	14,193	-67.0		29	14,240	-65.0	
125	29	15,230	-61.4		23	15,233	-72.6		27	15,281	-72.1		26	15,337	-69.9	
100	29	16,609	-61.9		20	16,544	-71.8		19	16,582	-73.1		23	16,655	-71.1	
80	29	17,992	-60.5		9	17,869	-69.3		18	17,907	-68.2		22	17,988	-66.6	
60	29	19,795	-57.7		6	19,623	-64.0		18	19,654	-63.3		20	19,751	-61.7	
50	29	20,950	-55.7						17	20,778	-60.0		20	20,884	-59.1	
40	29	22,377	-53.4						15	22,179	-56.9		20	22,293	-55.7	
30	27	24,233	-51.1						11	24,014	-53.3		20	24,138	-52.2	
20	10	26,873	-48.8										15	26,776	-48.6	
15													8	28,660	-46.2	

Standard pressure surface (mb.)	NANTUCKET, MASS. (1015 MB.)				NASHVILLE, TENN. (995 MB.)				NOME, ALASKA (1005 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	14	19.4	93	31	177	25.3	78	31	7	11.6	77
1,000	31	144	20.7	87	31	129			31	51		
950	31	591	20.2	73	31	584	25.2	63	31	479	8.7	75
900	31	1,055	18.0	65	31	1,055	22.0	66	31	923	6.1	75
850	31	1,543	15.2	64	31	1,550	18.5	70	31	1,388	3.5	76
800	31	2,055	12.7	57	31	2,067	14.7	70	31	1,878	.9	73
750	31	2,598	9.7	50	31	2,620	11.7	63	31	2,402	- 1.3	66
700	31	3,165	6.8	45	31	3,186	9.1	54	31	2,942	- 4.0	59
650	31	3,774	3.7	41	31	3,804	5.7	50	31	3,533	- 7.1	53
600	31	4,417	.3	35	31	4,448	2.0	50	30	4,141	-10.6	49
550	31	5,110	- 3.9	34	31	5,149	- 1.8	43	30	4,811	-14.8	47
500	31	5,855	- 8.2		31	5,897	- 6.3	36	30	5,519	-19.5	48
450	31	6,674	-13.2		31	6,726	-11.3	33	30	6,302	-24.9	46
400	31	7,554	-19.1		31	7,608	-17.3	32	30	7,140	-31.0	41
350	31	8,534	-25.9		31	8,593	-24.4	30	30	8,072	-38.1	
300	31	9,632	-34.1		31	9,699	-32.1		30	9,115	-45.7	
250	30	10,882	-43.5		30	10,959	-41.5		30	10,315	-49.5	
200	29	12,346	-53.2		29	12,436	-52.3		30	11,777	-48.1	
175	29	13,195	-58.7		29	13,288	-57.9		30	12,657	-47.5	
150	29	14,150	-63.9		29	14,246	-63.6		30	13,675	-47.7	
125	29	15,259	-66.6		28	15,349	-67.6		29	14,875	-48.1	
100	28	16,611	-65.0		27	16,691	-67.2		28	16,353	-48.3	
80	28	17,979	-62.1		27	18,045	-63.9		26	17,830	-48.0	
60	28	19,774	-58.0		26	19,824	-59.4		23	19,722	-48.0	
50	27	20,925	-56.5		24	20,970	-57.5		21	20,908	-48.0	
40	26	22,347	-54.1		19	22,386	-54.8		13	22,369	-48.2	
30	23	24,202	-51.2		12	24,245	-51.3		10	24,253	-47.0	
20	17	26,854	-48.6									
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These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

AUGUST 1955

Standard pressure surface (mb)	NORTH PLATTE, NEBR. (917 MB.)				OAKLAND, CALIF. (1012 MB.)				OKLAHOMA CITY, OKLA. (969 MB.)				OMAHA, NEBR. (967 MB.)				PHOENIX, ARIZ. (970 MB.)				PITTSBURGH, PA. (975 MB.)				PORTLAND, ME. (1014 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	848	24.7	56	31	6	14.7	77	31	391	25.9	65	30	403	25.7	56	31	341	31.9	51	31	353	22.5	76	31	20	18.5	89
1,000	31	78			31	109	14.0	74	31	108			30	104			31	68			31	134			31	141	20.0	80
950	31	540			31	562	22.0	38	31	566	27.1	54	30	563	27.5	46	31	535	31.4	47	31	585	22.5	71	31	591	19.6	73
900	31	1,016	27.1	41	31	1,020	23.9		31	1,040	24.5	52	30	1,039	24.7	48	31	1,017	28.4	46	31	1,052	19.8	73	31	1,049	17.1	71
850	31	1,519	24.4	41	31	1,516	21.8		31	1,538	20.7	58	30	1,537	20.9	53	31	1,522	24.7	49	31	1,543	16.6	73	31	1,535	14.0	71
800	31	2,047	20.4	44	31	2,039	18.9		31	2,059	16.7	63	30	2,059	17.1	53	31	2,050	20.7	54	31	2,057	13.7	70	31	2,044	11.3	64
750	31	2,605	16.2	48	31	2,596	15.5		31	2,611	13.0	59	30	2,608	13.8	47	31	2,608	16.4	57	31	2,609	10.8	65	31	2,587	8.9	55
700	31	3,183	11.9	50	31	3,169	11.6		31	3,183	9.6	55	30	3,185	10.3	45	31	3,188	12.2	60	31	3,172	7.9	58	31	3,151	5.8	51
650	31	3,806	7.7	46	30	3,790	7.2		31	3,801	6.1	52	30	3,802	6.6	43	31	3,809	7.8	61	31	3,785	4.4	51	31	3,759	2.5	47
600	30	4,455	2.8	47	30	4,438	2.8		31	4,447	2.3	50	30	4,451	2.4	38	31	4,461	3.0	65	31	4,428	1.2	41	30	4,397	- 1.2	41
550	30	5,153	- 2.1	47	29	5,138	- 2.4		31	5,149	- 1.3	42	30	5,150	- 1.9	38	31	5,169	- 1.4	64	31	5,125	- 2.6	37	30	5,085	- 5.5	38
500	30	5,904	- 6.5	40	29	5,884	- 7.7		31	5,899	- 5.6	41	29	5,901	- 6.4	42	31	5,915	- 5.6	55	31	5,872	- 7.1	35	30	5,828	- 9.8	
450	30	6,731	-11.2		29	6,709	-13.8		31	6,729	-10.5	38	29	6,730	-11.3		31	6,749	-10.3	47	31	6,695	-12.0	30	80	6,641	-15.0	35
400	30	7,616	-17.1		29	7,579	-20.2		31	7,615	-16.4	33	29	7,612	-17.3		31	7,633	-15.8	42	31	7,577	-17.8	33	30	7,516	-20.8	40
350	30	8,603	-24.0		29	8,554	-27.4		31	8,603	-24.0		29	8,599	-24.5		31	8,625	-22.7	39	31	8,561	-25.2	36	30	8,489	-27.5	44
300	30	9,708	-32.6		29	9,646	-35.3		31	9,708	-32.3		29	9,702	-32.9	33	31	9,738	-30.8		31	9,660	-33.6	38	30	9,579	-35.8	48
250	30	10,966	-42.0		29	10,892	-44.0		31	10,966	-42.1		29	10,960	-42.2		31	11,005	-40.8		31	10,914	-43.0		29	10,818	-44.6	
200	30	12,441	-52.7		29	12,359	-53.1		31	12,438	-53.4		29	12,435	-52.8		31	12,484	-52.8		31	12,382	-53.7		29	12,282	-53.1	
175	29	13,289	-58.1		29	13,210	-58.0		31	13,285	-59.4		27	13,283	-58.3		31	13,332	-59.4		29	13,223	-59.1		29	13,133	-57.1	
150	29	14,247	-63.5		29	14,169	-62.8		31	14,234	-65.6		27	14,240	-63.5		29	14,278	-65.9		28	14,176	-64.0		29	14,096	-61.5	
125	29	15,353	-67.9		29	15,282	-66.4		28	15,322	-70.1		25	15,348	-67.4		24	15,368	-71.3		23	15,286	-67.0		29	15,220	-63.3	
100	28	16,691	-67.6		29	16,629	-66.5		27	16,647	-69.5		23	16,690	-66.7		19	16,686	-70.3		14	16,614	-66.6		28	16,591	-62.9	
80	28	18,049	-63.0		29	17,988	-63.3		27	17,990	-65.5		22	18,048	-62.9		16	18,021	-65.5		9	17,986	-62.5		27	17,969	-60.3	
60	26	19,831	-58.9		27	19,772	-59.2		22	19,765	-60.3		17	19,836	-58.9		14	19,785	-60.8		8	19,778	-58.2		23	19,775	-56.9	
50	24	20,977	-56.6		24	20,921	-57.2		22	20,906	-58.0		16	20,988	-56.8		14	20,925	-58.1		7	20,920	-55.2		20	20,936	-55.0	
40	22	22,393	-54.1		21	22,339	-54.5		21	22,321	-54.8		16	22,411	-53.6		10	22,340	-55.6		7	22,349	-53.3		18	22,368	-53.6	
30	20	24,246	-51.3		19	24,190	-51.2		17	24,172	-51.5		15	24,279	-50.4		9	24,197	-51.7		6	24,204	-51.9		15	24,229	-50.4	
20	10	26,870	-48.5		15	26,849	-47.6		7	26,797	-48.7		8	26,936	-47.5										7	26,880	-47.0	
15					8	28,768	-44.6						6	28,844	-45.6													

Standard pressure surface (mb)	RAPID CITY, S. DAK. (904 MB.)				ST. CLOUD, MINN. (977 MB.)				SAN ANTONIO, TEX. (984 MB.)				SAN JUAN, P. R. (1012 MB.)				SANTA MARIA, CALIF. (1004 MB.)				S. STE. MARIE, MICH. (990 MB.)				SPOKANE, WASH. (931 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	966	24.0	49	31	316	21.3	80	31	243	28.9	57	31	19	25.6	85	31	74	13.6	86	31	221	18.5	83	31	722	23.6	22
1,000	31	71			31	112			31	100			31	132	26.3	77	31	110	13.3	86	31	129			31	86		
950	31	530			31	564	23.1	67	31	557	27.0	58	31	585	23.4	77	31	565	20.8	59	31	578	20.1	65	31	545		
900	31	1,009	24.7	46	31	1,032	20.4	65	31	1,033	23.5	64	31	1,056	20.5	76	31	1,018	25.1	25	31	1,039	17.5	66	31	1,013	22.5	24
850	31	1,510	23.2	43	31	1,523	17.3	60	31	1,530	19.8	69	31	1,548	17.5	73	31	1,518	23.3	25	31	1,525	14.9	59	31	1,505	18.0	29
800	31	2,036	19.3	48	31	2,039	14.8	47	31	2,050	16.1	71	31	2,065	15.0	65	31	2,043	19.8	28	31	2,036	12.2	52	31	2,019	13.3	36
750	31	2,589	15.1	52	31	2,586	11.4	49	31	2,598	12.4	70	31	2,608	12.0	56	31	2,600	16.1	27	31	2,578	9.5	46	31	2,564	8.9	35
700	31	3,167	10.9	52	31	3,155	7.7	50	31	3,173	9.2	62	31	3,184	8.7	53	31	3,177	12.0	27	31	3,143	6.0	48	31	3,125	5.5	26
650	31	3,784	6.1	53	31	3,766	4.1	46	31	3,787	5.8	52	31	3,796	5.1	54	31	3,798	7.6	27	31	3,749	2.4	45	31	3,730	1.9	
600	31	4,432	1.1	54	31	4,409	- .2	43	31	4,436	2.4	41	31	4,444	1.2	52	31	4,447	3.2		31	4,389	- 1.4	41	31	4,367	- 2.3	
550	31	5,123	- 4.0	57	31	5,102	- 4.4	41	31	5,133	- 1.3	38	30	5,141	- 2.7	47	31	5,150	- 1.2		31	5,079	- 5.5	42	31	5,050	- 6.6	
500	31	5,871	- 8.7	46	31	5,845	- 8.8		31	5,888	- 5.8	35	30	5,893	- 6.7	39	31	5,899	- 6.1		30	5,818	- 9.7	33	31	5,788	-12.1	
450	31	6,686	-13.9	43	30	6,667	-13.9		31	6,711	-10.9	31	30	6,715	-11.6	35	31	6,729	-11.5		30	6,632	-15.1		31	6,590	-18.1	
400	31	7,566	-20.0	43	30	7,539	-19.5	32	31	7,602	-16.9	33	30	7,602	-17.5	33	31	7,608	-17.9		30	7,504	-21.3		31	7,453	-24.6	
350	31	8,542	-26.9		28	8,516	-26.5		31	8,590	-24.0		30	8,587	-24.7	31	31	8,591	-25.1		30	8,475	-28.0		31	8,410	-32.0	
300	31	9,635	-35.1	40	28	9,611	-34.5		31	9,695	-32.4		30	9,689	-33.4		31	9,691	-33.6		30	9,564	-35.9		31	9,480	-40.0	
250	31	10,880	-44.3		28	10,860	-43.4		31	10,952	-42.4		30	10,942	-43.6		31	10,945	-42.5		30	10,807	-44.3		30	10,704	-48.0	
200	31	12,342	-54.2		27	12,330	-52.5		30	12,422	-53.9		29	12,403	-55.8		31	12,417	-53.0		28	12,278	-52.0		30	12,159	-51.5	
175	31	13,188	-58.9		27	13,183	-57.2		30	13,266	-60.0		29	13,239	-62.5		31	13,266	-58.7		28	13,135	-55.7		30	13,022	-53.2	
150	30	14,143	-63.3		27	14,148	-61.2		30	14,213	-66.3		29	14,174	-69.3		29	14,219	-64.7		28	14,108	-59.1		30	14,008	-55.6	
125	30	15,253	-66.5		27	15,271	-64.1		29	15,301	-71.3		29	15,246	-74.4		25	15,321	-69.1		24	15,243	-61.5		30	15,163	-57.7	
100	25	16,607	-65.7		25	16,641	-62.8		26	16,616	-71.7		23	16,539	-74.0		23	16,650	-68.3		20	16,628	-60.7		29	16,568	-57.8	
80	24	17,970	-62.2		24	18,023	-60.4		25	17,942	-67.9		22	17,848	-70.3		20	18,005	-64.1		16	18,028	-58.6		28	17,975	-56.9	
60	19	19,749	-59.0		21	19,834	-57.1		24	19,692	-63.0		21	19,585	-63.8		20	19,782	-60.0		12	19,866	-56.0		27	19,801	-55.2	
50	18	20,899	-56.8		21	20,991	-55.3		23	20,821	-59.5		20	20,712	-60.6		20	20,926	-57.4		10	21,036	-54.5		25	20,966	-53.6	
40	18	22,318	-54.6		20	22,423	-53.3		21	22,228	-56.0		20	22,114	-56.6		18	22,345	-54.5		8	22,478	-52.3		22	22,405	-51.6	
30	13	24,182	-51.2		20	24,286	-50.7		15	24,065	-52.4		16	23,961	-54.0		15	24,201	-51.1		7	24,343	-49.9		20	24,275	-48.8	
20					15	26,937	-48.3		5	26,694	-48.5		9	26,587	-50.0		6	26,845	-47.4						15	26,952	-46.1	
15																									8	28,871	-43.5	

Standard pressure surface (mb)	SWAN ISLAND, W. I. (1011 MB.)				TACUBAYA, MEXICO (774 MB.)				TAMPA, FLA. (1014 MB.)				TATOOSH ISLAND, WASH. (1015 MB.)				VERACRUZ, MEXICO (1009 MB.)				WASHINGTON, D. C. (1005 MB.)				YAKUTAT, ALASKA (1012 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	10	27.6	82	30	2,306	16.0	76	31	7	25.3	87	31	31	12.4	92	29	13	28.7	77	31	88	23.5	83	31	12	12.1	87
1,000	31	108	27.0	82	30	66			31	127	26.1	80	31	158	12.6	88	29	96	28.1	77	31	135	23.9	80	31	112	11.4	88
950	31	562	23.9	81	30	526			31	586	24.2	77	31	594	12.4	72	29	544	24.4	77	31	591	22.8	76	31	541	8.7	87
900	31	1,033	21.0	77	30	1,002			31	1,053	21.3	75	31	1,042	11.8	64	29	1,023	21.8	70	31	1,055	20.1	76	31	985	6.0	86
850	31	1,526	18.1	74	30	1,497			31	1,547	18.2	75	31	1,519	9.9	57	29	1,517	18.7	68	31	1,547	17.1	76	31	1,451	3.5	86
800	31	2,044	15.2	69	30	2,027			31	2,065	15.3	70	31	2,021	8.0	47	29	2,035	15.7	63	31	2,063	14.4	71	31	1,941	1.0	86
750	31	2,591	12.1	64	30	2,577	14.4	75	31	2,618	12.4	65	31	2,560	5.6	42	29	2,591	12.7	58	31	2,612	11.4	66	31	2,465	- 1.4	83
700	31	3,164	8.9	56	30	3,154	10.4	78	31	3,187	9.3	61	30	3,115	3.2	35	29	3,157	9.2	58	31	3,181	8.4	61	31	3,006	- 3.8	74
650	30	3,776	5.4	54	30	3,776	6.3	82	31	3,805	5.8	61	30	3,714	- .2	36	29	3,775	5.4	56	30	3,799	5.3	56	31	3,596	- 6.6	66
600	29	4,424	1.7	49	30	4,421	2.1	84	31	4,450	2.0	63	30	4,348	- 4.2	35	28	4,419	1.6	56	30	4,442	1.9	53	31	4,210	- 9.8	59
550	29	5,116	- 2.5	47	29	5,122	- 1.8	84	31	5,153	- 1.9	61	30	5,028	- 8.6	32	28	5,117	- 2.0	53	30	5,140	- 2.1	47	31	4,881	-13.8	57
500	28	5,869	- 6.9	41	29	5,874	- 5.8	74	31	5,901	- 6.2	52	30	5,760	-13.7	31	28	5,869	- 6.2	52	30	5,890	- 6.2	40	31	5,594	-18.4	53
450	28	6,692	-11.7	38	29	6,703	-10.3	70	31	6,735	-11.1	46	30	6,559	-19.4	31	28	6,700	-11.2	47	30	6,720	-11.2	37	30	6,380	-23.6	49
400	28	7,578	-17.3		29	7,592	-15.8	63	31	7,614	-16.8	43	30	7,417	-25.8		27	7,583	-16.7	42	29	7,602	-17.1		30	7,221	-29.4	46
350	27	8,565	-24.3		25	8,584	-23.1	56	31	8,602	-23.7	41	30	8,369	-33.3		27	8,572	-23.7	35	29	8,589	-24.1		30	8,159	-36.9	
300	27	9,670	-32.4		22	9,698	-31.3		31	9,710	-31.8	38	30	9,432	-41.1		27	9,678	-32.2		29	9,693	-32.5		30	9,207	-44.9	
250	27	10,928	-42.3		15	10,962	-41.9		31	10,973	-41.6		30	10,648	-48.6		26	10,937	-42.4		29	10,951	-42.0		30	10,407	-50.9	
200	27	12,397	-54.2		6	12,453	-53.9		31	12,448	-53.4		30	12,098	-51.9		26	12,405	-54.6		29	12,424	-52.9		30	11,852	-51.2	
175	27	13,239	-60.9						31	13,294	-59.7		30	12,961	-52.5		25	13,247	-61.3		29	13,273	-58.6		30	12,722	-49.8	
150	24	14,181	-67.6						30	14,240	-65.9		30	13,954	-53.2		21	14,192	-67.6		29	14,228	-63.8		30	13,730	-49.6	
125	24	15,260	-73.5						29	15,333	-71.0		29	15,123	-54.7		15	15,269	-74.6		29	15,334	-67.4		29	14,920	-49.9	
100	15	16,557	-74.4						24	16,647	-71.5		29	16,545	-55.4		11	16,550	-76.4		29	16,677	-66.9		28	16,377	-49.4	
80	11	17,870	-69.9						23	17,976	-67.4		28	17,972	-54.5		5	17,871	-71.1		28	18,036	-63.0		26	17,844	-49.0	
60	10	19,614	-62.7						21	19,733	-62.1		27	19,813	-53.9						27	19,823	-58.6		23	19,736	-48.6	
50	9	20,748	-60.0						21	20,864	-59.9		26	20,987	-52.8						27	20,973	-56.6		21	20,936	-48.6	
40	8	22,155	-57.2						20	22,268	-56.6		25	22,431	-51.1						27	22,394	-54.2		18	22,392	-48.6	
30									16	24,110	-52.9		24	24,310	-49.2						22	24,253	-50.8		8	24,264	-47.1	
20									8	26,742	-49.0		12	26,996	-45.7						9	26,915	-45.9					
15													5	28,918	-44.4						5	28,861	-44.1					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb)	YUMA, ARIZ. (996 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	24	105	34.0	11
1,000--	24	62		
950----	24	527	31.5	44
900----	24	1,009	27.7	48
850----	24	1,512	23.6	52
800----	24	2,039	19.5	56
750----	24	2,595	15.6	58
700----	24	3,172	11.5	57
650----	24	3,788	7.2	59
600--	23	4,442	3.0	59
550----	23	5,135	- 1.4	56
500----	23	5,896	- 5.8	45
450----	23	6,715	-11.0	
400----	20	7,611	-16.6	
350----	19	8,599	-23.5	
300----	19	9,708	-31.6	
250----	18	10,972	-41.7	
200----	18	12,449	-53.2	
175----	16	13,297	-59.6	
150----	13	14,261	-65.4	
125----	5	15,342	-70.4	
100---	5	16,663	-71.4	
80-----	5	17,999	-66.2	

* Observations began August 20, [illegible].

Note: All observations scheduled at 0300 G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near [illegible], G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than [illegible] actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes, dynamic height (geopotential) in units of 98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for April 1955

Standard pressure surface (mb.)	DENVER, COLO. (827 MB.)				FT. WORTH, TEX. (989 MB.)				OGDEN, UTAH (850 MB.)				RANTOUL, ILL. (986 MB.)				ROME, N. Y. (995 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,661	10.3	31	30	178	20.8	55	30	1,450	6.8	46	30	227	12.8	67	29	146	6.2	74
1,000--	30	37			30	83			30	95			30	104			29	112		
950----	30	485			30	529	20.0	52	30	530			30	543	14.2	58	29	535	7.9	65
900----	30	947			30	992	17.2	54	30	980			30	992	11.8	58	29	979	5.4	67
850----	30	1,424			30	1,477	14.6	51	30	1,453	5.2	46	30	1,469	9.4	54	29	1,444	3.4	67
800----	30	1,932	9.8	30	30	1,987	12.0	44	30	1,951	4.6	46	30	1,969	6.6	51	29	1,934	1.2	64
750----	30	2,468	6.0	30	30	2,527	8.7	37	30	2,474	.4	49	30	2,501	3.8	45	29	2,456	- 1.0	56
700----	30	3,024	1.3	33	30	3,089	4.8	32	30	3,022	3.9	53	30	3,053	.8	44	29	2,999	- 3.9	54
650----	30	3,618	- 3.9	38	30	3,690	.4	31	30	3,604	- 8.2	54	30	3,649	- 3.1	42	29	3,584	- 7.3	50
600----	30	4,240	- 9.0	42	30	4,324	- 4.3	31	30	4,218	-12.6	55	30	4,273	- 7.4	39	29	4,199	-10.9	41
550----	30	4,907	-14.5	43	30	5,003	- 9.4	33	30	4,876	-17.6	56	30	4,947	-12.2	36	29	4,864	-15.1	36
500----	30	5,621	-19.8	42	30	5,732	-15.0	36	30	5,583	-22.9	54	30	5,665	-17.6		29	5,576	-19.9	37
450----	30	6,398	-25.7	38	30	6,524	-20.8	35	30	6,351	-28.0	54	30	6,449	-23.5		29	6,355	-25.3	
400----	30	7,235	-32.2		30	7,379	-27.1		30	7,181	-34.3	56	30	7,296	-29.9		29	7,194	-31.4	
350----	30	8,163	-39.4		30	8,327	-34.2		30	8,100	-41.2		30	8,232	-37.1		29	8,123	-38.8	
300----	30	9,200	-46.8		30	9,387	-41.8		30	9,129	-47.9		30	9,279	-44.8		29	9,164	-46.3	
250----	30	10,392	-52.5		30	10,598	-50.2		30	10,312	-54.1		30	10,475	-53.0		29	10,353	-53.7	
200----	30	11,819	-55.9		30	12,028	-57.5		30	11,733	-55.6		30	11,890	-58.2		29	11,770	-57.7	
175----	30	12,668	-55.8		30	12,867	-59.3		30	12,584	-54.8		30	12,730	-57.6		29	12,615	-56.7	
150----	30	13,649	-56.0		29	13,829	-61.4		30	13,566	-55.6		30	13,704	-57.4		29	13,595	-55.5	
125----	30	14,806	-57.5		26	14,954	-63.5		30	14,724	-56.0		30	14,853	-58.5		29	14,752	-55.9	
100----	29	16,202	-59.2		17	16,317	-66.1		29	16,139	-57.7		27	16,251	-60.6		28	16,165	-57.5	
80----	27	17,591	-60.9		12	17,657	-67.6		28	17,540	-58.5		25	17,644	-62.1		25	17,565	-59.4	
60----	26	19,378	-61.4		9	19,399	-64.2		25	19,341	-59.9		24	19,424	-61.5		20	19,386	-60.3	
50-----	23	20,517	-60.2		9	20,519	-62.4		20	20,493	-58.4		20	20,563	-60.7		19	20,521	-59.6	
40-----	19	21,921	-58.3		7	21,913	-58.0		14	21,911	-57.0		20	21,954	-59.0		16	21,916	-58.4	
30-----	12	23,730	-55.9		7	23,742	-52.4		9	23,736	-55.2		19	23,766	-55.6		11	23,733	-56.4	
20-----	8	26,329	-52.4										8	26,348	-52.5		5	26,283	-55.3	
15-----	7	28,216	-49.4																	
10-----	5	30,926	-45.8																	

* May data for the above Air Force stations will be included in the September issue of this publication

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes, dynamic height (geopotential) in units of 98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			1/ Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)			Ely, Nev. (1,910 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	150	2.1	31	153	1.6	31	99	1.0	31	169	0.7	31	317	3.4	31	118	6.3	31	247	1.9	28	270	0.9	29	160	2.2	31	355	0.8	31	103	2.7	30	209	1.7
500	--	---	----	--	---	----	--	---	----	--	---	----	--	---	----	31	127	6.0	30	255	1.9	28	247	1.2	27	172	3.0	31	349	1.1	-	---	---	-	---	----
1,000	31	133	2.6	-	---	----	--	---	----	31	157	1.4	31	321	3.2	29	137	4.1	30	265	2.5	26	230	1.2	25	197	.9	30	1	1.2	--	---	----	--	---	----
1,500	31	121	1.9		-	-	31	121	1.3	29	200	2.1	31	325	1.5	28	132	2.0	29	270	3.4	23	269	3.2	23	349	1.6	28	356	1.4	31	105	3.2	-	--	-- -
2,000	30	106	2.1	31	167	1.3	31	166	1.4	28	240	3.2	30	273	1.3	15	157	1.5	29	272	4.5	19	262	4.7	22	20	2.6	24	340	1.5	31	104	3.3	30	208	1.8
2,500	29	89	1.7	31	182	1.3	30	236	3.1	28	266	4.6	30	245	3.1	15	124	1.4	29	271	5.4	17	280	5.3	22	35	2.2	20	341	1.3	30	106	2.9	30	213	2.5
3,000	27	85	1.1	30	160	1.6	29	257	5.7	27	275	6.0	30	237	5.5	15	124	2.0	30	276	6.1	15	293	6.3	21	42	3.3	17	276	2.4	30	90	3.0	29	219	2.8
4,000	22	106	1.1	29	130	1.4	28	263	8.8	25	284	8.5	31	236	8.8	13	63	1.8	30	280	7.4				19	47	2.1	10	315	2.8	25	74	2.4	27	217	3.9
5,000	19	50	1.0	24	62	2.3	26	269	12.2	22	286	11.2	30	240	11.2	10	94	2.7	30	279	9.3				18	2	2.0				21	64	3.2	22	256	4.3
6,000	15	14	1.6	23	49	2.3	24	262	15.1	17	278	11.8	30	240	12.4				29	281	12.0				15	338	2.0				18	52	3.1	15	250	6.9
8,000	12	118	.7	19	56	.7				14	270	17.2	19	243	17.2				29	276	16.3				15	12	4.8				14	64	2.8			
10,000				15	198	.8							13	245	22.4				28	270	19.0				13	35	4.4									
12,000																			26	268	19.0				11	110	3.4									
14,000																			26	270	17.8				10	123	1.5									
16,000																			25	285	10.6															

	Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 M.)			Jacksonville, Fla. (16 m.)			Little Rock, Ark. (88 m.)			Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			2/ Oakland, Calif. (8 m.)			Omaha, Nebr. (306 m.)		
Surface	31	257	2.9	31	261	1.3	29	50	1.8	31	281	2.0	31	96	1.4	31	109	1.5	30	320	0.9	29	109	1.7	28	204	0.4	29	3	1.3	31	291	4.4	30	148	2.2
500	--	---	----	31	257	2.0	29	42	1.3	--	---	----	31	104	1.8	31	81	1.1	30	325	1.3	29	113	1.9	28	267	.5	29	360	1.5	31	272	2.9	30	148	2.5
1,000	--	---	-	30	254	3.3	29	20	1.4	31	271	2.6	31	107	.7	29	87	1.2	30	326	2.5	28	81	.7	24	332	1.5	29	17	2.0	31	246	2.5	30	154	2.9
1,500	31	256	2.8	28	254	4.3	28	10	1.4	31	263	2.4	27	281	.6	22	64	1.0	30	308	2.3	25	336	1.0	21	1	.9	27	12	1.5	31	232	3.0	30	174	2.7
2,000	31	284	2.0	26	266	5.0	26	7	1.8	30	237	3.8	25	300	.5	19	54	.8	30	244	1.9	25	340	1.4	15	40	1.4	25	20	1.0	31	234	3.4	29	196	2.1
2,500	31	286	1.1	25	275	5.1	22	24	3.5	28	242	5.8	25	338	.6	16	356	1.1	30	215	3.7	24	359	1.6				19	11	.3	31	234	4.1	28	225	1.6
3,000	31	263	.9	24	288	6.3	21	26	4.0	27	249	8.7	22	360	.7	13	310	1.4	30	208	4.9	24	8	1.4				18	42	.6	31	227	4.7	27	243	1.5
4,000	31	269	1.5	19	304	6.2	16	36	3.8	25	258	12.4	19	19	1.6				30	222	6.9	23	10	.9				16	22	.6	31	229	5.5	26	312	3.2
5,000	30	269	2.9	18	296	7.4	14	36	4.5	22	261	14.3	13	56	1.3				30	228	8.8	21	339	.3				13	337	.9	31	228	6.8	23	314	3.7
6,000	28	267	3.5	17	301	8.3	14	21	4.0	17	262	14.5	13	46	1.1				29	233	9.8	20	313	.6				13	234	.5	31	235	7.1	23	304	6.4
8,000	22	247	7.2	13	307	8.9	11	13	4.2	12	268	17.4	10	25	1.7				23	240	11.8	17	161	1.1							31	228	11.1	22	307	8.7
10,000	19	257	8.7				10	81	1.3										19	239	18.1	11	210	2.8							30	230	16.4	20	298	11.4
12,000	15	261	12.4																13	240	23.3										30	226	19.6	19	297	11.6
14,000	10	257	11.2																												30	225	16.6	14	298	7.8
16,000																															30	209	8.3			

	Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			3/ Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			4/ Washington, D. C. (88 m.)		
Surface	31	239	1.5	31	132	1.5	31	212	1.0	31	126	2.5	31	285	3.4	31	291	2.1	31	222	1.9	31	133	1.1
500	31	242	1.4	-	---	----	31	230	1.4	31	123	3.1	30	288	2.1	31	294	2.9	--	---	-- -	31	140	1.7
1,000	31	235	1.3	31	133	1.4	31	228	2.6	31	112	2.9	30	265	1.0	31	273	3.5	31	216	2.9	31	135	1.0
1,500	30	208	.8	31	178	1.8	29	256	4.2	31	101	2.8	30	135	.6	31	276	4.3	31	223	3.7	31	206	.5
2,000	30	169	.4	31	209	1.7	27	266	6.3	30	104	2.4	30	111	1.4	31	282	5.6	31	231	4.5	31	271	.9
2,500	30	101	.9	31	235	3.0	26	265	6.7	24	79	2.9	30	107	1.7	31	287	6.1	31	233	5.8	31	279	1.2
3,000	30	106	1.9	28	242	3.8	24	276	7.5	24	68	3.1	30	117	2.0	31	288	8.4	30	239	7.1	31	257	2.3
4,000	28	120	2.7	24	280	6.5	22	273	8.8	13	53	2.4	27	117	2.6	31	293	9.2	30	241	10.7	31	273	2.4
5,000	28	114	4.0	20	293	8.7	17	285	9.3				25	116	2.9	31	292	10.8	30	244	12.8	31	266	2.8
6,000	23	103	4.0	13	286	8.8	13	289	10.6				24	124	2.7	31	286	12.0	29	249	13.7	31	279	4.0
8,000	19	120	3.8	10	280	11.0	12	295	11.6				19	148	2.6	31	293	16.4	28	251	17.0	31	284	6.1
10,000	14	106	2.5				10	311	13.9				13	174	6.6	31	283	21.6	21	251	18.2	31	276	7.6
12,000													11	176	9.3	31	280	24.4	15	242	20.1	30	283	8.7
14,000																31	280	20.7				29	275	7.8
16,000																29	283	13.9				28	307	4.0

1/ Rawin Data (Cont'd.)

18,000 m., 22 obs., 291 dir., 5.6 speed
20,000 m., 19 obs., 299 dir., 1.2 speed
22,000 m., 16 obs., 98 dir., 2.4 speed

2/ Rawin Data (Cont'd.)

18,000 m., 29 obs., 150 dir., 3.5 speed
20,000 m., 26 obs., 112 dir., 6.6 speed
22,000 m., 22 obs., 91 dir., 8.4 speed
24,000 m., 18 obs., 95 dir., 10.4 speed
26,000 m., 16 obs., 96 dir., 10.9 speed
28,000 m., 11 obs., 98 dir., 12.9 speed

3/ Rawin Data (Cont'd.)

18,000 m., 26 obs., 286 dir., 6.4 speed
20,000 m., 21 obs., 291 dir., 1.8 speed
22,000 m., 16 obs., 321 dir., .9 speed
24,000 m., 10 obs., 118 dir., 1.6 speed

4/ Rawin Data (Cont'd.)

18,000 m., 27 obs., 67 dir., 2.0 speed
20,000 m., 24 obs., 95 dir., 4.0 speed
22,000 m., 23 obs., 91 dir., 6.0 speed
24,000 m., 17 obs., 78 dir., 7.0 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N - 360°, E - 90°, S - 180°, W - 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Table 22

Altitude (meters) m s l	Albuquerque, N. Mex. (1,630 m.)			Anchorage, Alaska ([illegible] m.)			Annette, Alaska ([illegible] m.)			Barrow, Alaska ([illegible] m.)			Bismarck, N. Dak. ([illegible] m.)			Brownsville, Tex. ([illegible] m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. ([illegible] m.)			Caribou, Me. ([illegible] m.)			Charleston, S. C. ([illegible] m.)			Columbia, Mo. ([illegible] m.)			El Paso, Tex. (1,195 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	31	108	2.7	31	248	1.8	31	183	[illegible]	31	[illegible]	[illegible]	31	104	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.6	[illegible]	[illegible]	[illegible]	[illegible]	249	[illegible]	[illegible]	167	[illegible]	[illegible]	135	[illegible]	[illegible]	204	2.3
500		-		31	157	2.7	30	158	[illegible]	31	[illegible]	[illegible]				31	[illegible]	[illegible]	[illegible]	[illegible]	2.9	[illegible]	[illegible]	1	31	264	[illegible]	29	166	[illegible]	[illegible]	[illegible]	3.1			-
1,000	-	-		30	[illegible]	3.2	30	[illegible]	4.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	[illegible]	2.6	[illegible]	31	[illegible]	[illegible]	282	1.[illegible]	29	[illegible]	[illegible]	[illegible]	144	[illegible]			
1,500	-	-	-	30	171	3.7	29	221	1.7	31	[illegible]	[illegible]	[illegible]	200	[illegible]	[illegible]	[illegible]	[illegible]	31	258	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	[illegible]	[illegible]	[illegible]	141	[illegible]	[illegible]	[illegible]	3.8
2,000	31	148	2.5	30	170	4.1	29	238	[illegible]	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	103	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	[illegible]	[illegible]	[illegible]	126	[illegible]	31	[illegible]	3.[illegible]
2,500	31	171	1.6	30	181	3.1	24	247	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30	273	4.1	[illegible]	[illegible]	[illegible]	30	291	[illegible]	28	[illegible]	[illegible]	31	42	[illegible]	31	[illegible]	3.7
3,000	31	179	1.5	30	216	3.4	22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	270	1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.8
4,000	31	113	.8	30	246	3.5	27	272	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	284	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	61	4.0
5,000	31	53	2.7	30	263	3.[illegible]	27	272	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	80	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	288	[illegible]	[illegible]	[illegible]	[illegible]	31	[illegible]	[illegible]	29	74	4.9
6,000	30	58	2.5	28	[illegible]	[illegible]	21	[illegible]	9.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	12	[illegible]	31	316	3.[illegible]	29	76	6.0
8,000	28	47	1.3	26	262	7.6	21	[illegible]	10.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	277	[illegible]	26	[illegible]	[illegible]	[illegible]	281	[illegible]	25	38	1.[illegible]	[illegible]	325	[illegible]	[illegible]	68	5.0
10,000	27	346	1.7	24	269	7.5	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	25	284	[illegible]	26	46	[illegible]	[illegible]	[illegible]	[illegible]	27	16	[illegible]	[illegible]	[illegible]	[illegible]	29	53	5.3
12,000	27	20	3.0	23	278	6.2	15	306	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	82	[illegible]	24	287	[illegible]	27	54	1.5	[illegible]	288	[illegible]	[illegible]	49	[illegible]	[illegible]	296	[illegible]	29	48	[illegible]
14,000	26	7	1.5	23	283	[illegible]	13	[illegible]	[illegible]	[illegible]	[illegible]	1.[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	281	[illegible]	27	87	1.5				26	64	[illegible]	29	302	[illegible]	28	56	7.4
16,000	21	116	3.8	22	[illegible]	5.6	12	264	[illegible]	21	[illegible]	1.[illegible]				[illegible]	[illegible]	[illegible]				22	87	[illegible]				[illegible]	82	6.9	29	316	3.[illegible]	27	65	5.1
18,000	18	84	5.7	20	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	65	[illegible]				14	95	16.9				19	89	[illegible]				[illegible]	82	[illegible]	[illegible]	70	2.3	20	89	[illegible]
20,000	16	89	[illegible]	16	308	2.8				[illegible]	312	[illegible]				10	[illegible]	[illegible]				17	[illegible]	14.7				[illegible]	82	6.6	22	85	5.9	21	94	10.3
22,000	14	92	11.4	14	32[illegible]	[illegible]				[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]				15	[illegible]	[illegible]				[illegible]	83	14.0	[illegible]	82	8.9	17	96	17.[illegible]
24,000	1[illegible]	90	13.7							13	[illegible]	[illegible]										13	81	[illegible]				15	[illegible]	18.9	[illegible]	90	[illegible]	16	95	17.4
26,000																												12	97	17.7	[illegible]	86	[illegible]	[illegible]	91	17.6
28,000																															10	84	[illegible]			

Altitude (meters) m s l	Fairbanks, Alaska (135 m.)			Grand Junction, Colo. (1,475 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. ([illegible] m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. ([illegible] m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	30	260	1.4	31	92	0.9	31	1[illegible]	[illegible]	2[illegible]	[illegible]	2.7	[illegible]	174	0.4	31	[illegible]	1.1	31	31[illegible]	1.6	31	40	0.4	30	104	2.7	29	179	1.6	31	37	0.5	31	246	2.6
500	30	253	2.7	-	---	---	29	89	1.5	27	[illegible]	3.[illegible]	31	[illegible]	1.6	31	107	3.2	31	339	3.3	31	[illegible]	1.5	-	---	----	29	236	3.3	31	57	2.7	31	262	2.4
1,000	30	247	3.9	-	-	-	29	79	[illegible]	25	[illegible]	2.[illegible]	31	255	3.1	[illegible]	[illegible]	3.4	31	324	6.3	31	98	1.6	30	119	1.8	29	242	2.7	31	70	3.[illegible]	31	269	1.7
1,500	30	249	5.1	31	88	.8	29	66	[illegible]	23	[illegible]	2.[illegible]	31	260	[illegible]	[illegible]	92	3.4	31	304	4.5	31	101	1.2	30	132	6.8	29	258	2.8	30	79	2.0	30	281	1.2
2,000	30	247	5.6	31	68	1.3	29	57	[illegible]	24	64	2.1	31	[illegible]	5.6	31	98	3.0	31	276	3.2	31	79	1.3	30	129	6.1	29	260	3.[illegible]	31	85	1.7	30	275	2.0
2,500	30	249	5.7	31	65	.6	29	47	[illegible]	24	68	2.1	31	284	6.6	31	[illegible]	2.5	31	245	1.0	31	83	.7	30	125	4.5	29	264	5.2	31	86	1.4	[illegible]	293	1.6
3,000	30	257	5.9	31	84	.2	29	70	[illegible]	24	69	1.[illegible]	31	290	8.0	[illegible]	91	2.2	31	223	5.1	31	98	[illegible]	30	117	3.3	29	264	5.8	31	85	1.5	30	275	2.1
4,000	28	272	4.9	31	[illegible]	.6	28	24	.8	24	60	1.8	31	293	10.7	26	94	1.5	31	221	6.6	31	116	.5	29	58	3.6	29	268	6.5	31	78	1.7	29	290	[illegible]
5,000	27	263	5.1	31	236	2.3	28	39	[illegible]	24	67	1.9	31	[illegible]	[illegible]	24	36	1.1	31	231	7.7	31	46	.6	29	60	4.6	28	271	7.7	31	63	1.6	28	269	3.0
6,000	24	276	5.2	31	248	3.9	27	15	[illegible]	24	62	2.4	31	[illegible]	[illegible]	24	7	2.1	30	[illegible]	10.5	31	19	1.3	29	53	4.2	28	273	8.7	31	29	0.4	28	265	4.6
8,000	20	339	7.6	31	249	7.4	29	352	[illegible]	24	24	4.0	30	287	21.0	24	346	3.2	[illegible]	[illegible]	[illegible]	31	52	1.2	29	47	4.3	26	279	11.5	31	322	[illegible]	26	294	4.1
10,000	19	302	7.6	30	241	11.9	26	352	1.7	24	24	5.7	30	278	26.6	24	319	2.9	[illegible]	[illegible]	19.5	31	48	.7	29	47	6.0	[illegible]	276	14.9	30	267	1.6	24	274	6.0
12,000	19	304	6.3	29	248	13.8	24	337	[illegible]	24	12	5.0	30	277	31.4	23	308	3.4	17	235	24.1	29	30	2.1	26	86	3.6	16	288	15.8	28	292	2.3	20	273	5.8
14,000	18	313	5.4	26	248	12.8	22	[illegible]	[illegible]	22	354	6.[illegible]	29	278	24.9	22	347	1.5	[illegible]	230	19.3	29	61	5.6	26	76	4.6	15	291	12.8	28	311	3.6	19	295	5.7
16,000	15	325	3.8	21	241	7.0	14	36	1.4	20	50	3.9	23	278	15.4	18	60	3.5	12	236	9.[illegible]	19	[illegible]	9.3	21	71	[illegible]	16	291	6.3	27	42	1.7	17	298	6.4
18,000	14	357	2.3	16	13[illegible]	1.2	11	101	4.4	20	71	4.[illegible]	22	281	9.2	16	95	6.2	10	174	2.6	18	97	12.5	19	84	[illegible]	17	321	2.3	26	82	4.0	16	304	4.7
20,000	14	4	3.[illegible]	15	101	4.8	10	78	[illegible]	18	81	7.3	20	299	3.1	15	89	6.9	11	[illegible]	4.[illegible]	18	88	14.1	18	88	12.1	17	72	4.0	15	76	7.5	15	306	3.5
22,000	13	17	2.6	1[illegible]	87	6.5				18	86	11.[illegible]	1[illegible]	20	[illegible]	12	89	14.2	1[illegible]	[illegible]	6.[illegible]	12	[illegible]	18.8	13	88	15.7	16	89	5.0	18	89	12.4			
24,000				11	86	7.5				17	92	17.6	17	64	[illegible]	11	90	14.3							11	91	17.2	14	90	9.8	10	90	15.5			
26,000										11	91	14.5													15	91	17.4	10	102	9.7						

Altitude (meters) m s l	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul, Is., Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. ([illegible] m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is., Wash. ([illegible] m.)			Washington, D. C. (88 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	31	286	4.2	31	139	3.7	31	5[illegible]	1.2	31	114	0.7	28	278	5.4	31	128	2.5	31	129	1.3	31	296	3.4	30	250	1.4	31	210	1.2	31	228	3.5	31	137	0.8
500	31	277	4.[illegible]	31	138	4.8	-	-	---	31	157	1.[illegible]	27	271	7.4	31	123	6.2	31	109	3.6	31	33[illegible]	3.2	30	289	2.3	--	---	---	31	283	5.2	31	162	1.5
1,000	31	268	4.8	31	138	5.0	31	57	1.2	31	219	3.5	27	272	8.7	31	126	6.6	30	108	4.2	31	330	4.1	30	293	3.2	31	263	2.7	31	282	3.1	31	115	.8
1,500	31	264	3.6	31	146	3.3	31	143	.9	31	243	4.2	26	277	8.7	31	121	7.0	30	100	3.2	31	1	2.8	30	290	4.3	31	262	3.1	31	287	1.7	31	88	.9
2,000	31	258	3.0	31	124	.7	31	206	1.8	31	266	5.[illegible]	25	279	9.1	31	105	2.6	30	95	3.3	30	60	2.1	30	291	5.6	31	251	3.4	31	279	2.7	31	102	.5
2,500	31	251	2.8	31	7	.8	31	229	3.[illegible]	31	271	5.9	24	282	10.0	31	77	1.7	30	103	3.2	30	66	1.2	30	292	6.2	31	247	4.8	31	275	4.1	31	112	.5
3,000	31	238	2.9	31	354	1.8	31	250	3.6	31	265	7.1	23	275	10.2	31	55	2.2	30	93	3.6	30	217	.2	30	289	7.2	31	243	6.7	31	277	5.8	31	172	.4
4,000	30	225	3.9	31	18	3.4	31	275	5.2	31	266	8.1	21	271	9.4	31	49	2.9	28	85	4.7	31	235	1.1	30	288	9.1	31	244	10.3	31	272	7.6	30	276	1.1
5,000	29	236	5.1	31	25	3.6	31	281	7.0	31	269	9.8	20	270	8.4	31	58	3.5	28	86	4.5	31	31[illegible]	1.5	30	290	10.5	30	247	12.4	31	265	9.5	30	249	1.7
6,000	29	241	7.3	31	40	4.2	31	281	9.0	31	285	12.0	20	267	9.4	31	60	2.2	28	87	5.0	31	251	3.1	29	288	11.8	30	248	14.4	31	266	11.7	30	299	2.2
8,000	29	232	11.5	31	30	4.3	31	264	13.1	28	281	16.5	18	280	11.5	31	60	1.8	28	83	3.4	31	226	6.8	27	278	17.7	28	250	18.1	31	260	13.9	29	300	4.9
10,000	28	233	16.7	31	351	2.8	31	266	17.7	27	273	21.6	13	259	14.0	31	87	2.8	28	108	2.3	31	216	10.4	27	278	24.3	25	249	21.6	31	260	18.5	29	310	4.7
12,000	29	232	18.6	31	11	1.0	31	266	19.8	22	270	20.8	10	267	11.1	29	140	3.8	27	114	3.5	31	212	12.9	25	278	29.1	23	247	25.8	30	256	20.2	29	304	6.7
14,000	29	225	15.[illegible]	30	36	3.0	30	271	17.6	21	260	19.0				29	98	3.0	27	73	5.1	27	206	8.8	24	279	23.7	21	251	22.8	30	252	20.9	29	300	8.0
16,000	29	215	8.6	27	55	3.1	27	267	8.4	18	27[illegible]	10.1				25	75	5.9	21	96	8.4	23	186	4.9	18	285	14.0	21	254	15.0	30	252	16.4	29	312	3.6
18,000	28	140	2.3	26	91	6.5	23	250	3.5	1[illegible]	28[illegible]	5.5				24	85	12.2	19	94	11.9	20	90	4.7	14	288	6.4	20	248	6.3	28	249	9.4	27	46	3.2
20,000	25	90	6.2	22	86	9.6	18	70	1.6	20	335	1.4				22	87	14.7	18	83	14.4	20	86	9.9				20	290	1.4	26	247	1.1	27	79	5.3
22,000	21	86	9.8	21	85	12.1	18	72	5.1	20	67	2.1				17	88	18.6	18	92	18.7	16	87	13.3				18	60	2.4	26	98	.9	26	87	8.5
24,000	19	88	10.9	17	92	14.0	13	[illegible]	6.1	19	68	4.6							13	86	20.9	13	91	12.9				15	63	4.6	24	86	2.8	22	91	10.2
26,000	16	87	11.7							15	6[illegible]	5.5																15	86	5.2	14	93	5.4	12	95	11.3

Altitude (meters) m s l	Yakutat, Alaska (12 m.)			Yuma, Ariz. (105 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	31	137	3.4	23	169	1.5
500	31	140	5.2	23	248	3.4
1,000	30	153	5.5	23	253	1.7
1,500	30	168	4.9	23	241	.2
2,000	30	188	4.4	23	88	1.6
2,500	30	202	4.4	23	96	2.9
3,000	29	216	3.9	23	95	2.7
4,000	29	234	4.2	23	97	2.7
5,000	29	257	3.8	22	102	2.8
6,000	28	273	4.[illegible]	22	111	3.6
8,000	27	299	5.5	19	122	2.4
10,000	26	289	8.6	17	152	3.4
12,000	24	287	9.0	17	143	4.8
14,000	22	287	8.5	13	118	8.9
16,000	22	282	7.6			
18,000	20	274	4.2			
20,000	18	292	3.2			
22,000	15	315	1.3			

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 * Air Force Data for April 1955

Altitude (meters) m.s.l.	Denver Colo. (1,661 m.) No of observations	Direction	Speed	Ft. Worth, Tex. (178 m.) No. of observations	Direction	Speed	Ogden, Utah (1,450 m.) No. of observations	Direction	Speed	Rantoul, Ill. (227 m.) No. of observations	Direction	Speed	Rome, N. Y. (116 m.) No. of observations	Direction	Speed
Surface	30	231	0.4	30	202	0.8	30	44	1.0	30	173	1.5	30	89	1.0
500	--	---	----	29	178	5.5	--	---	----	30	191	3.4	30	118	.6
1,000	-	--	-- -	29	199	7.0	--	---	----	30	213	3.6	30	230	1.6
1,500	--	---	----	29	221	6.9	29	46	.8	30	241	3.6	30	276	3.7
2,000	30	250	2.6	29	242	7.3	29	210	1.6	30	254	4.6	30	297	5.1
2,500	30	272	4.0	29	256	8.1	29	239	3.7	30	265	5.9	30	302	6.7
3,000	30	268	4.8	29	261	9.9	28	248	5.2	30	270	7.3	30	299	7.3
4,000	30	271	6.2	29	261	13.5	28	246	7.9	30	271	9.5	30	297	10.0
5,000	30	272	7.9	28	262	17.1	29	245	9.1	30	279	10.7	30	302	11.1
6,000	30	266	10.4	29	262	20.7	29	254	11.0	30	283	12.0	30	301	12.2
8,000	29	263	14.4	29	261	27.8	29	259	13.4	30	276	15.8	30	293	15.3
10,000	29	266	18.6	30	266	33.8	30	262	20.0	30	273	21.0	30	282	17.8
12,000	28	260	20.7	30	266	39.0	26	259	19.4	30	276	27.0	30	283	20.3
14,000	26	262	20.2	28	263	30.3	27	253	17.7	30	279	21.4	30	289	17.0
16,000	26	258	14.3	19	274	17.3	26	252	10.4	28	281	13.3	28	295	12.8
18,000	23	278	5.3	12	282	8.0	23	234	5.7	25	281	9.0	25	302	9.6
20,000	21	274	2.9				17	223	.9	20	289	3.0	20	302	4.7
22,000	14	348	1.4				11	189	.5	20	299	3.6	14	294	3.6
24,000										17	282	3.2	10	276	6.0

* May data for the above Air Force stations will be included in the September issue of this publication.

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

AUGUST 1955

Date	A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
					**ALBUQUERQUE, N. MEX.				
Air mass	4.08	3.26	2.44	1.63	(Noon)	1.63	2.44	3.26	4.08
Aug.									
1%----	----	----	----	----	----	----	----	----	----
2%----	-	----			----	----	----	----	----
3----	0.56	0.68	0.82	0.97	1.24		----		----
4--	.65	.75	.89	1.02	----	--		-	-
5----	.64	.72	.85	1.01	--	----	----	----	----
6-----	----	.65	.80	.99	----	----	----	----	----
7%----	----	----	----	----	----	----	----	----	----
8----	.76	88	---	1.12	---	--	-	----	----
9-----	.72	83	.95	1.13	1.32				-
10----	-	----		1.13		----	---		
11%---	-	----	----	----	----	----	-	----	----
12%---	-	----	----	----	----	----	----	----	----
13%---	----	----	----	----	----	----	----	----	----
14----	----	----	.78	1.00	----	----	----	----	----
15%---	----	----	----	----	----	----	----	----	----
16----	.58	70	.80	97	1.22	--	----	----	--
17----	.67	76	.86	.99	---	--	-		-
18-	56	.67	88	1.03	1 24	---	---	----	---
19----	.65	----	----	----	----	----	----	----	----
20%---	----	----	----	----	----	----	----	----	----
21%---	----	----	----	----	----	----	----	----	----
22%---	---	----	----	----	----	----	----	----	----
23----	.75	.83	.97	1 12	1.31	1.14	----	----	----
24---	--	----	----	----	1.34	----	----	----	----
25---	.73	---	---	1.12	1.33	1.19	-	---	---
26----	.71	.82	.95	1.08	1.30	----	-	-	---
27%---	----	----	----	----	----	----	----	----	----
28----	----	----	.97	1.12	1.31	1 15	---	----	----
29----	.81	.91	1.02	1.17	1.23	----	----	---	-
30----	----	----	----	----	1.31	----	----	---	--
31----	.82	.88	1.01	1.19	1.31	1.12	1.03	.94	.80
Averages	.69	.78	.90	1.07	1.29	1.15	(1.03)	(.94)	(.80)
					TABLE MOUNTAIN, CALIF.				
Air mass	3.76	3.01	2.26	1.51	*0.75	1.51	2.26	3.01	3.76
Aug.									
6H-----	----	----	----	1.23	----	----	----	----	----
13-----	----	---	----	1.32	----	----	----	----	----
14-----	----	----	----	1.30	----	----	----	----	----
15-----	----	----	----	1.35	----	----	----	----	--
16-----	----	----	---	1.28	---	---	----	-	-
19-----	---	----	----	1.18	----	----	----	----	----
25-----	----	----	----	1.42	----	--	---	----	----
26-----	---	----	----	1.43	---	----	----	----	---
27-----	1.11	1.20	1.30	1.42	----	----	----	----	----
28-----	1.15	1.23	1.33	1.47	----	----	----	----	--
29-----	1.15	1.23	1.33	1.43	----	----	----	--	----
30-----	----	----	----	1.34	----	----	----	----	----
Averages	1.14	1.22	1.32	1.35	----	----	----	----	----
					WASHINGTON, D. C. (WBCO)				
Air mass	4.96	3.97	2.98	1.99	Noon	1.99	2.98	3.97	4.96
Aug.									
1------	----	----	----	0.94	--	-	--	--	----
3------	----	---	----	.90	1.03	----	----	----	----
19-----	----	----	----	1.17	1.22	----	----	----	----
20-----	----	----	----	----	1.18	1.00	----	----	----
21-----	----	----	----	.95	---	----	----	----	----
24-----	----	----	----	1.13	----	----	----	----	----
Averages	----	----	----	1.02	1.14	1.00	---	---	---

Date	A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
					#LINCOLN, NEBR				
Air mass	4.77	3.81	2.86	1.91	*0.95	1.91	2.86	3.81	4.77
Aug.									
3	----	----	---	----	1.18	0.97	0.77	0 64	0.56
4-	-				1.14	99	.79	64	.58
10---	--	----	----		1.22	1 06	88	.75	.64
11----	----	----	----	1 01	1.27	----	--	-	---
12----	----	----	----	99	1.25	1.03	88	75	.64
13----	----	----	----	1.03	1 30	1.08	.94	.84	.73
16----	----	----	----	.90	1.21	.92	.71	56	.50
17----	----	----	----	.92	1.19	----	-		----
23----	----	----	----	94	1.24	.94	.79	62	.52
24----	----	----	----	----	1.15	90	.73	.58	.45
Averages	----	----	----	.97	1.22	.99	81	.67	.58
					MADISON, WIS				
Air mass	4.81	3.84	2.88	1.92	*0.96	1.92	2.88	3.84	4.81
Aug									
11---	0.82	0.91	1.06	1.21	1.40	1.13	0.97	0.85	0.76
12	.75	.85	1.00	1.16	1.37	----	----	----	----
13	.80	.90	1.03	1.20	1.41	1.19	1.02	.93	.82
17		--	--	.91	1.28	---	----	---	----
18 --	.41	.53	.67	.86	1.18	.81	----	----	----
21----	57	69	.85	1.05	1.24	---	----	----	----
22----	.74	.86	1.01	1.17	1.37	---	----	----	----
25----	.46	59	.73	.87		---		----	----
30-	.84	.92	1.07	1 27	1.42	----	----	----	----
31----	----	1.03	1.16	1.31	1.49	----	----	----	----
Averages	67	.81	.95	1.10	1.35	1 04	1 00	.89	.79
					BLUE HILL, MASS				
Air mass	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
Aug.									
1--		----	----	1.06	---	----	----	----	----
2-----	0.30	0.40	0.63	.86	----	-	----	0.82	0.71
3-----	.82	.89	1.00	1.15	---	---	--	----	----
4----	.46	54	.68	86	--			----	---
6-----	.70	----	----	----	----	0.89	0.71	.58	.46
8-----	----	----	----	----	----	1.29	1.09	.98	.83
9-----	.89	1.00	1.12	1.27	-	----	----	----	----
10-	.94	1.03	1.15	1.29	----	----	-	---	----
15-	----	-	--	----	----	1.15	.93	.83	.72
16-	64	.73	-	1.00	-	1.08	85	.63	.54
24----	----	----	-	----	----	1.20	1.03	.93	.78
26----	----	.93	1.03	1.15	----	--	----	----	----
28----	----	----	----	----	----	1.27	1.15	1.02	.92
29----	93	1 02	1.14	1.27	---	1.18	.99	.85	.72
Averages	71	.82	.96	1.10	----	1.15	.96	.83	.71

* Extrapolated
** All entries are with no clouds within 45° of sun, no dust or smoke
% Cloudy
# Solar Radiation equipment moved to North Omaha Airport August 25, 1955.
H Haze

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of Tables 30 and 31 and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the Monthly Weather Review, vol. 72, No. 1, January 1944, p. 43. A list of pyrheliometric stations is given on page 45 of that issue. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

AUGUST 1955

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	6	7	8	9	10	11	12		13	14	15	16	17	18	19		20	21	22	23	24	25	26	
Langleys	128	119	111	140	120	116	44	111	87	105	117	113	94	33	16	81	108	114	105	62	105	109	114	103
Date	27	28	29	30	31	1	2																	
Langleys	74	97	93	120	53	99	93	90																

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	6	7	8	9	10	11	12		13	14	15	16	17	18	19		20	21	22	23	24	25	26	
Langleys	282	152	123	368	348	135	42	207	83	183	230	306	195	29	26	150	283	267	255	59	97	254	306	218
Date	27	28	29	30	31	1	2																	
Langleys	67	329	321	286	53	94	79	176																

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	6	7	8	9	10	11	12		13	14	15	16	17	18	19		20	21	22	23	24	25	26	
Langleys	298	223	236	298	309	245	56	238	101	241	295	277	174	32	6	161	338	302	376	90	227	319	326	283
Date	27	28	29	30	31	1	2																	
Langleys	141	394	386	248	64	178	117	218																

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	6	7	8	9	10	11	12		13	14	15	16	17	18	19		20	21	22	23	24	25	26	
Langleys	444	237	556	408	234	299	60	320	123	366	513	445	186	42	42	245	419	348	410	203	503	504	403	398
Date	27	28	29	30	31	1	2																	
Langleys	300	486	447	265	104	320	152	296																

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	6	7	8	9	10	11	12		13	14	15	16	17	18	19		20	21	22	23	24	25	26	
Langleys	123	258	102	172	131	229	73	155	180	249	223	174	204	54	21	158	156	126	165	126	190	174	183	160
Date	27	28	29	30	31	1	2																	
Langleys	150	83	92	215	103	214	187	149																

Note: Langley is the unit used to denote one gram calorie per square centimeter.

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

AUGUST 1955

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	**	**	**	292	344	328	354	*288	**	*176	*173	*0	*346	*201	289	*323	*0	*316	330	296	316	280	**	**	121	313	272	209	*195	*214	*189	247

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

* Estimated values owing to occurrence of rain during period. While rain is falling, radiation is assumed to be zero.

** Radiometer inoperative.

These data are of an experimental nature and are published as received from the North Carolina State College at Raleigh. The instrument with which they were measured has not been checked by the Weather Bureau.

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. AUGUST 1955

1955	Aklavik, MacKenzie	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Davis, Calif.	Dodge City, Kans.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grandby, Colo.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.
Aug. 6------	521	---	117	540	633	563	494	693	582	398	---	597	---	698	610	229	472	619	590	222	670	644	574	601	406	662	657	461	697	278	627	694	606
Aug. 7------	360	516	115	632	501	415	200	639	419	566	---	643	604	47	601	396	227	647	318	679	282	654	574	648	---	574	670	475	532	509	624	644	454
Aug. 8------	113	597	164	624	493	368	173	512	475	652	---	686	605	708	548	748	634	661	648	680	234	367	736	534	407	536	688	574	571	477	756	663	487
Aug. 9------	403	744	115	695	650	586	231	691	632	812	---	675	585	676	531	487	548	660	727	636	---	660	717	682	474	529	696	566	724	560	742	699	---
Aug. 10------	148	635	138	488	247	549	398	672	594	745	---	563	501	621	206	350	556	670	531	444	476	645	710	622	366	413	690	654	756	600	701	690	235
Aug. 11------	235	588	216	668	541	615	372	656	463	735	---	426	(535)	124	329	712	664	664	646	692	566	617	560	619	126	477	682	603	632	419	709	698	374
Aug. 12------	213	661	307	611	631	535	520	665	78	622	---	618	530	521	795	729	684	634	811	633	220	452	682	264	419	536	604	574	537	362	679	495	264
Averages------	285	623	167	609	528	519	341	647	463	647	---	601	(560)	485	517	522	541	651	610	569	408	577	651	567	366	532	670	558	635	458	691	655	403
Aug. 13------	295	668	67	473	664	651	(433)	612	180	579	---	669	561	450	---	82	661	637	796	447	423	612	692	646	508	(572)	672	337	193	539	268	448	---
Aug. 14------	542	701	256	401	673	553	492	192	485	646	428	655	616	252	---	306	510	666	772	94	---	638	690	668	540	676	667	---	556	271	623	531	184
Aug. 15------	435	---	237	(606)	492	436	469	558	589	460	477	491	599	175	633	721	564	678	362	435	620	588	719	592	529	662	655	---	650	455	742	581	460
Aug. 16------	321	703	216	584	412	451	(221)	357	588	588	580	441	595	---	534	558	681	671	748	490	633	436	---	466	528	633	673	625	599	287	429	654	424
Aug. 17------	316	689	331	608	644	600	189	525	310	---	315	596	622	506	491	619	596	654	763	593	634	544	687	476	434	619	670	603	657	---	528	660	53
Aug. 18------	208	645	524	634	530	563	293	636	56	---	38	628	663	307	668	662	560	650	789	579	204	564	380	373	126	484	661	516	636	584	715	651	251
Aug. 19------	(335)	565	546	546	398	568	249	232	21	612	8	523	569	667	646	657	505	647	776	556	139	318	656	567	73	576	654	625	625	413	713	521	594
Averages------	(351)	662	311	(550)	545	546	(335)	444	318	577	308	572	604	393	594	515	582	657	715	456	442	529	637	541	391	(603)	665	541	559	425	574	578	328
Aug. 20------	350	433	315	532	640	---	101	635	572	---	549	610	506	---	453	622	590	639	769	523	610	528	537	570	247	529	631	324	633	663	---	602	329
Aug. 21------	258	437	581	(318)	631	---	277	623	542	---	523	659	648	---	390	610	556	623	727	584	589	565	599	459	111	647	634	480	584	721	721	658	584
Aug. 22------	143	577	553	541	541	---	166	364	562	587	544	601	621	386	523	300	615	634	613	334	603	455	566	580	179	639	588	638	617	613	708	620	547
Aug. 23------	209	708	277	427	373	---	(298)	341	144	600	131	583	657	398	396	602	601	577	744	592	188	573	655	508	304	611	584	584	618	478	644	632	312
Aug. 24------	(187)	719	278	557	402	---	142	626	403	494	385	616	636	518	278	659	625	631	699	543	272	306	675	593	121	581	649	529	445	535	528	398	595
Aug. 25------	102	716	190	340	549	---	274	513	560	587	567	598	572	655	100	639	624	616	730	538	650	538	656	657	---	613	660	397	596	506	515	531	453
Aug. 26------	163	653	489	97	560	491	119	188	552	---	---	472	625	366	471	351	621	620	743	151	605	520	551	679	---	624	658	584	455	557	596	604	532
Averages------	(202)	606	383	(402)	528	---	(197)	470	476	567	450	591	609	465	373	540	604	620	718	466	502	498	606	578	192	606	629	505	564	582	619	578	522
Aug. 27------	228	472	349	501	588	573	164	539	224	602	---	223	547	450	630	235	608	617	757	236	---	185	555	692	---	500	649	558	608	425	684	630	577
Aug. 28------	(235)	681	555	518	562	592	235	592	630	580	---	638	641	256	600	210	585	609	665	169	649	552	663	691	---	261	646	669	612	593	684	596	497
Aug. 29------	143	688	553	644	477	540	231	625	586	588	---	587	676	575	501	475	68	613	697	401	644	553	642	695	167	559	634	589	613	592	695	603	422
Aug. 30------	248	660	189	624	---	553	295	614	404	---	---	539	668	460	558	293	588	609	482	510	420	532	543	664	413	455	620	540	602	716	697	589	424
Aug. 31------	196	689	229	471	355	234	156	632	119	591	---	499	676	183	484	492	631	606	777	489	144	507	641	652	275	635	600	436	539	695	690	546	341
Sept. 1------	95	693	279	501	509	380	202	317	265	597	---	501	668	452	316	304	633	483	764	574	273	471	699	639	121	623	595	488	426	---	679	559	220
Sept. 2------	90	689	247	394	490	532	218	553	207	581	---	558	---	409	349	612	614	570	392	587	177	501	703	550	74	624	608	281	565	---	673	582	73
Averages------	(177)	653	343	522	497	486	214	553	348	590	---	506	646	398	491	375	532	587	648	424	385	472	635	655	210	522	622	508	567	---	686	586	365

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued

	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Lincoln, Nebr.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.
1955																																	
Aug. 6------	602	741	570	744	392	658	134	656	178	632	336	577	669	646	351	347	620	404	627	446	616	554	590	583	596	597	636	642	680	(524)	599	(716)	350
Aug. 7------	561	753	520	763	239	634	391	628	672	377	692	475	655	676	603	214	487	481	495	444	311	412	461	330	597	203	320	490	677	(624)	691	(694)	710
Aug. 8------	418	773	670	746	747	517	633	682	635	508	617	206	567	601	629	276	670	358	647	531	268	597	457	691	592	673	677	661	667	(588)	685	(692)	715
Aug. 9------	627	501	496	748	642	186	751	519	615	472	335	463	635	639	637	560	665	611	512	369	685	710	380	668	692	657	666	653	653	(336)	682	(701)	683
Aug. 10------	534	394	217	742	586	537	679	672	458	499	658	462	554	650	517	101	648	666	226	414	304	289	627	201	701	693	440	634	651	(708)	612	(684)	432
Aug. 11------	658	---	624	603	182	587	542	647	652	373	603	372	392	455	644	193	642	659	479	387	505	178	401	---	666	101	650	634	264	(731)	295	(711)	682
Aug. 12------	612	104	651	702	350	450	665	524	681	662	658	603	457	420	660	275	665	523	640	593	108	44	682	(646)	624	130	639	652	636	(732)	375	(628)	671
Average-------	573	544	536	721	448	510	542	618	556	503	557	451	561	584	577	281	628	529	518	455	400	398	514	(520)	638	436	575	624	604	(606)	563	(689)	606
Aug. 13------	653	738	682	741	77	482	417	582	706	645	666	643	505	579	659	494	667	407	480	522	232	213	608	122	697	178	620	639	659	(716)	375	(618)	641
Aug. 14------	581	767	348	757	602	426	637	679	481	788	662	580	596	636	646	588	643	516	554	588	573	311	481	455	637	168	260	632	671	(674)	592	(636)	264
Aug. 15------	520	567	605	751	395	470	617	673	602	568	659	545	---	647	592	407	631	511	671	538	566	597	371	413	637	575	552	626	670	(567)	545	(662)	639
Aug. 16------	535	677	384	762	398	586	385	625	629	596	637	582	---	(655)	538	449	625	619	574	257	557	278	530	211	656	364	571	617	656	(675)	593	(566)	575
Aug. 17------	645	238	524	759	540	606	453	389	590	768	639	491	---	615	582	555	618	517	697	431	448	403	633	415	623	244	571	608	642	(400)	580	(615)	583
Aug. 18------	339	705	583	741	144	626	486	608	534	715	623	580	657	663	565	348	608	393	463	583	254	116	585	475	641	161	650	601	655	549	656	(626)	610
Aug. 19------	562	479	466	717	568	644	594	596	582	717	570	568	650	636	549	102	621	240	540	571	74	429	645	530	621	73	465	597	661	421	570	(661)	553
Average-------	548	596	513	747	389	548	513	593	589	685	637	570	602	(633)	590	420	630	458	568	499	386	335	550	374	645	252	527	617	659	(572)	559	(626)	552
Aug. 20------	405	679	533	704	580	673	679	662	542	702	552	568	642	673	497	161	639	546	549	497	579	629	634	---	457	558	614	623	676	621	502	(642)	221
Aug. 21------	600	636	476	695	381	634	694	630	563	536	461	571	633	657	557	157	625	630	230	502	556	582	492	---	548	540	636	608	664	436	549	(634)	573
Aug. 22------	526	689	399	595	438	585	576	560	624	402	623	312	594	615	602	110	650	610	626	368	575	537	381	---	614	593	616	607	637	538	595	(643)	580
Aug. 23------	582	384	531	690	261	572	675	419	669	536	612	263	554	559	502	89	624	600	588	518	265	409	631	---	513	332	670	596	490	358	644	(697)	631
Aug. 24------	400	157	608	711	583	417	326	392	541	724	579	596	471	596	291	53	614	385	725	613	221	528	644	---	505	492	608	597	539	588	662	(496)	538
Aug. 25------	353	216	577	768	530	626	381	602	548	741	---	595	587	623	400	186	625	515	555	606	619	625	615	---	613	533	---	566	660	180	569	(613)	384
Aug. 26------	414	342	475	780	533	539	609	690	544	693	---	566	658	655	188	152	621	564	587	575	598	551	521	---	647	564	612	580	659	500	557	(600)	126
Average-------	469	443	514	706	472	578	563	565	576	619	565	496	591	625	434	130	628	550	551	525	488	551	560	---	557	516	626	597	618	460	583	(618)	436
Aug. 27------	645	739	552	762	425	171	567	699	456	645	---	552	657	656	231	198	598	398	614	547	224	368	546	---	682	310	483	577	672	312	510	(555)	596
Aug. 28------	629	478	524	758	663	309	676	693	526	636	---	473	645	667	505	243	592	658	583	560	638	672	556	---	680	633	428	570	673	351	523	(684)	242
Aug. 29------	465	730	449	738	424	330	664	671	311	628	---	220	652	649	213	436	568	545	578	445	615	499	517	---	666	537	632	545	656	598	618	(687)	208
Aug. 30------	578	708	506	728	417	291	663	653	598	464	---	249	616	611	447	425	591	494	383	462	290	477	364	194	656	353	649	547	642	462	518	(681)	450
Aug. 31------	217	706	525	683	398	340	664	635	583	617	---	541	560	533	594	177	602	511	583	544	104	297	606	548	(662)	153	602	559	620	(568)	233	(615)	210
Sept. 1------	303	638	542	704	453	258	664	648	646	611	---	601	555	529	594	211	577	400	638	512	250	227	443	492	(672)	381	529	547	637	600	317	(514)	621
Sept. 2------	459	665	---	702	594	661	647	639	569	720	---	579	588	592	569	431	537	427	618	608	146	202	638	374	682	421	614	532	658	491	555	(621)	554
Average-------	471	667	516	725	482	337	649	663	527	617	---	459	610	605	450	303	581	490	571	526	324	392	524	402	(671)	398	562	554	651	(483)	468	(622)	411

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

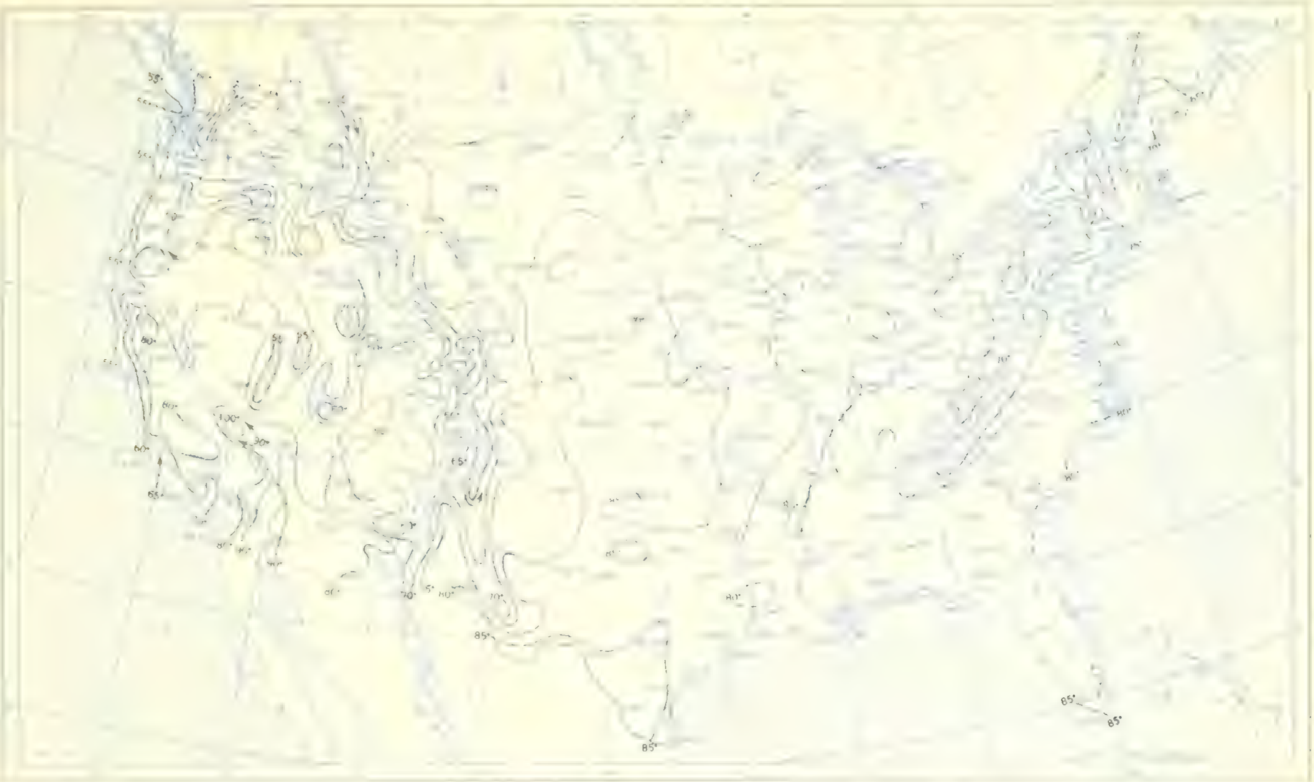
SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys -Continued AUGUST 1955

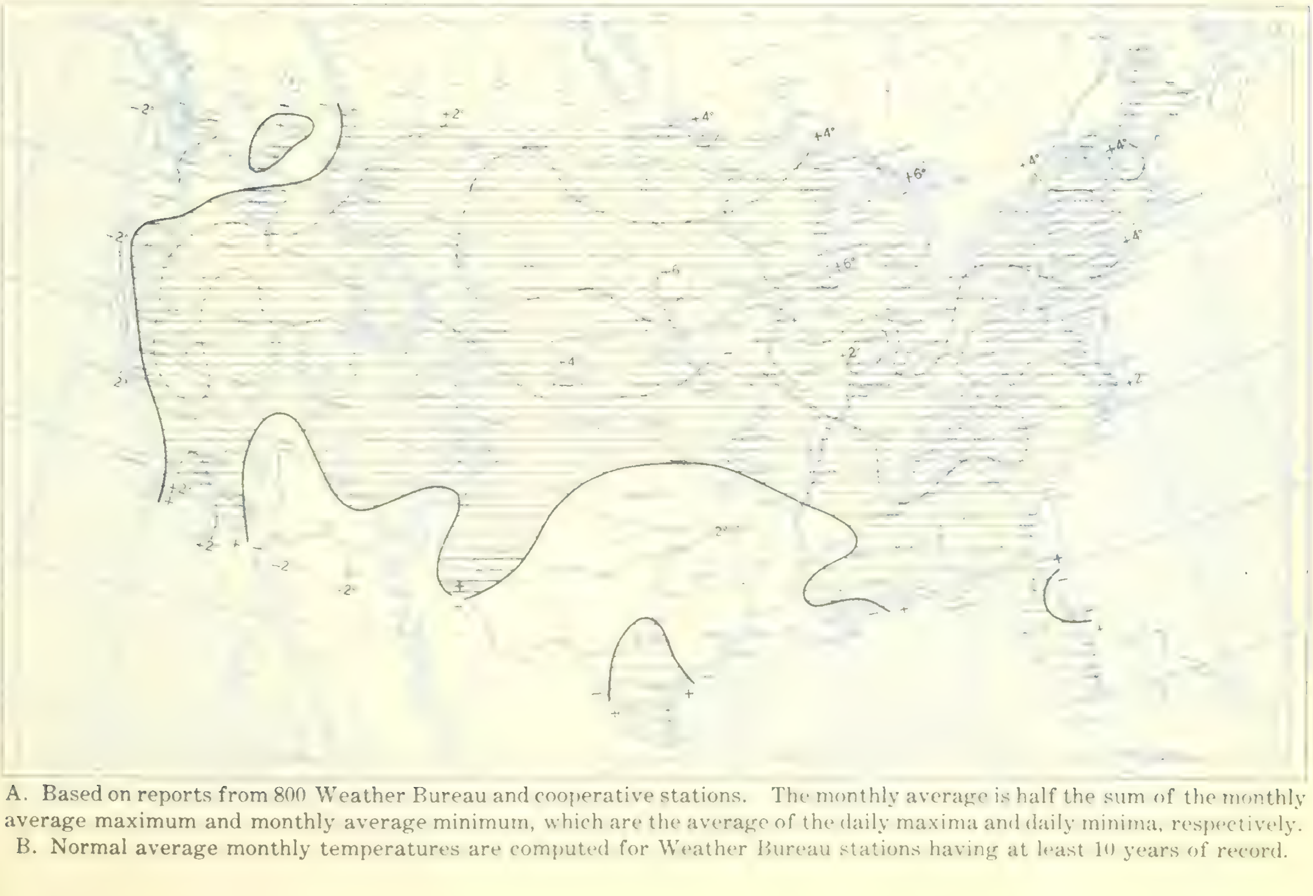
	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Toronto, Ontario	Tucson, Ariz.	Upton, N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
1955																
Aug. 6------	651	500	488	546	(632)	716	389	650	678	602	393	419	660	694	539	624
Aug. 7------	458	300	459	403	505	510	241	451	624	540	614	600	502	696	377	698
Aug. 8------	---	597	164	291	274	724	666	529	675	719	706	584	---	642	101	458
Aug. 9------	756	485	672	558	646	698	556	369	(697)	520	586	678	(739)	678	209	679
Aug. 10------	194	433	286	534	(636)	670	575	502	655	662	122	590	218	699	347	686
Aug. 11------	544	454	339	250	(356)	657	138	647	677	663	635	641	448	697	371	665
Aug. 12------	36	97	50	282	286	679	37	664	655	668	652	526	81	711	26	616
Average-------	440	410	351	409	(477)	665	372	545	(666)	625	530	577	(441)	688	281	632
Aug. 13------	331	99	200	536	638	656	23	665	535	629	66	521	291	708	175	562
Aug. 14------	568	341	---	530	(629)	655	580	679	683	262	105	673	465	697	262	275
Aug. 15------	604	467	---	492	(436)	637	399	665	666	445	302	611	(461)	695	633	220
Aug. 16------	602	336	---	368	(533)	643	567	569	686	668	494	650	479	---	399	416
Aug. 17------	516	424	---	503	(604)	641	374	646	458	643	498	468	430	636	169	588
Aug. 18------	233	76	260	509	604	617	28	588	652	620	514	547	---	683	131	625
Aug. 19------	323	412	516	108	(185)	595	575	585	156	361	569	319	---	546	584	337
Average-------	454	308	---	435	(519)	635	364	628	548	518	364	541	(425)	661	336	432
Aug. 20------	624	495	586	497	521	624	561	569	575	---	470	598	616	631	595	570
Aug. 21------	605	351	588	501	597	631	354	600	611	---	376	148	594	697	600	503
Aug. 22------	553	467	434	407	494	617	403	419	(625)	640	218	---	540	560	513	550
Aug. 23------	396	213	425	252	330	619	430	529	429	666	449	---	(361)	686	505	550
Aug. 24------	272	534	426	258	358	618	516	497	(264)	621	606	---	319	629	545	550
Aug. 25------	566	452	500	142	336	429	385	606	609	258	520	654	567	248	502	384
Aug. 26------	611	468	566	134	394	602	501	597	633	538	276	432	608	201	594	338
Average-------	518	423	504	313	433	592	450	545	(535)	544	445	533	(515)	522	550	492
Aug. 27------	295	368	505	472	559	591	259	---	621	459	370	652	282	310	544	546
Aug. 28------	681	532	605	431	(544)	596	397	---	602	509	290	583	660	281	522	509
Aug. 29------	613	520	---	440	530	579	340	602	352	501	414	628	603	328	405	452
Aug. 30------	505	344	501	98	157	583	321	548	294	526	264	505	491	583	491	594
Aug. 31------	319	312	260	213	192	571	430	639	143	358	549	553	---	616	269	575
Sept. 1------	404	323	374	387	471	573	320	651	345	495	302	640	---	542	244	497
Sept. 2------	179	452	226	424	513	559	561	595	345	414	482	665	---	510	163	554
Average-------	428	407	412	352	(424)	579	375	607	386	466	382	604	509	453	377	532

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Chart I. A. Average Temperature (°F.) at Surface, August 1955.



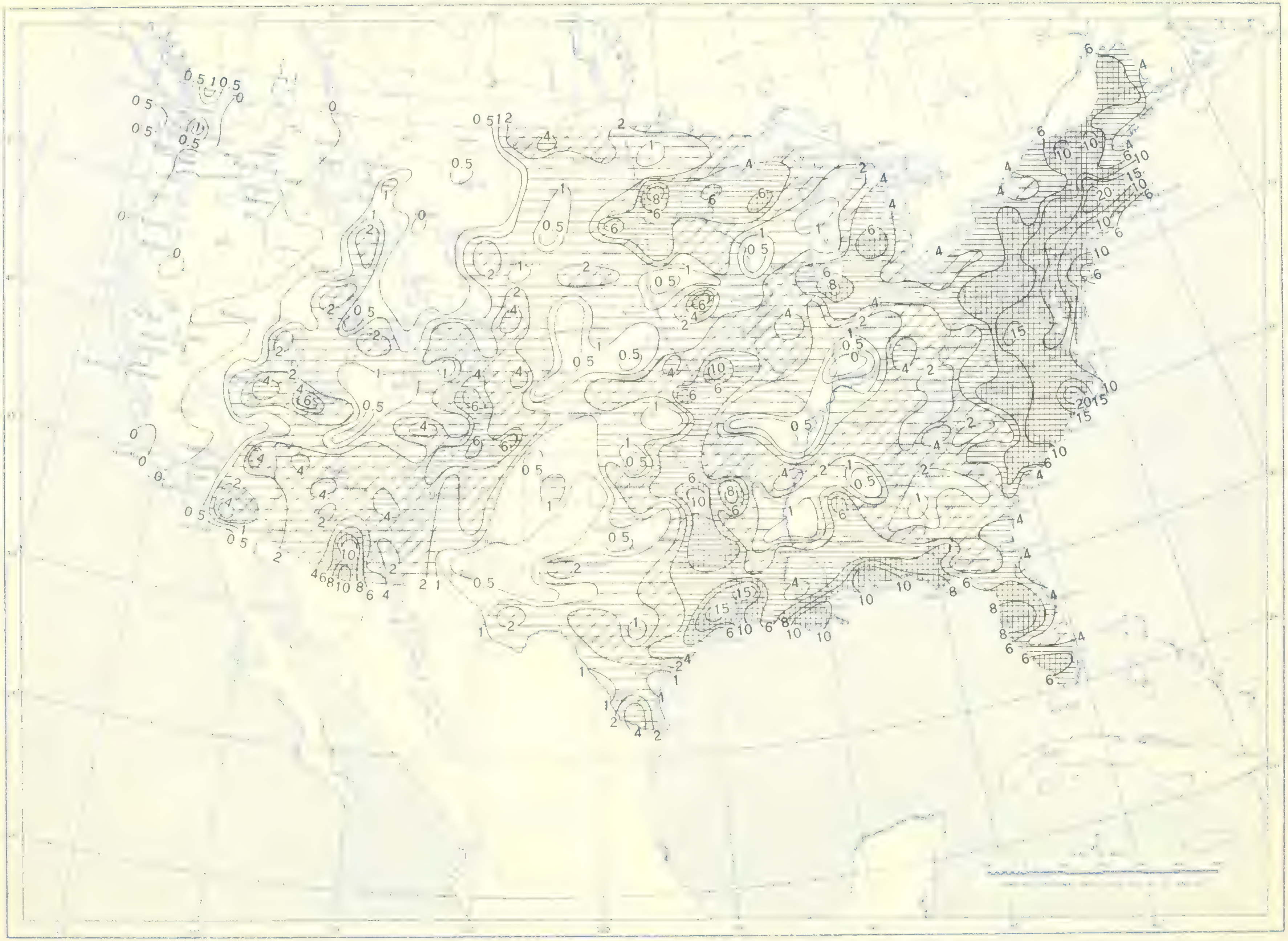
B. Departure of Average Temperature from Normal (°F.), August 1955.



A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

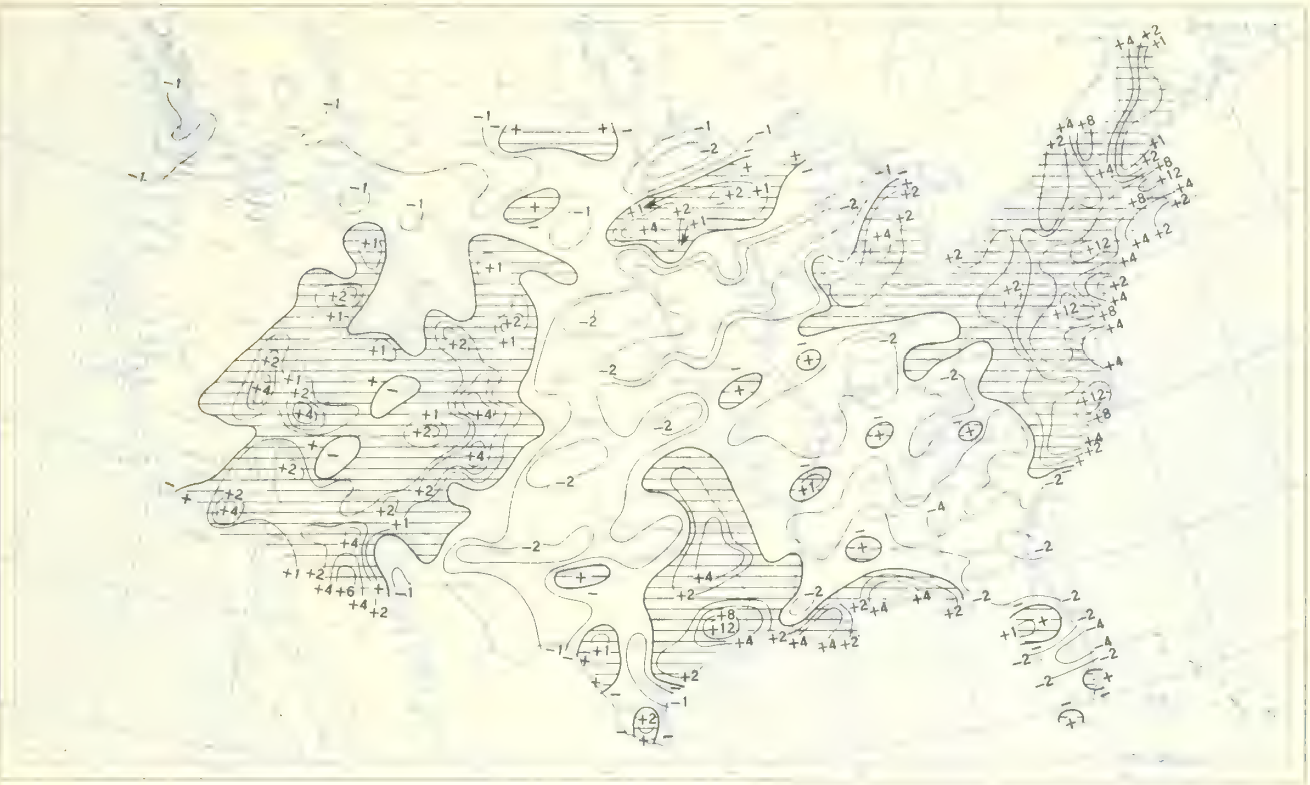
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), August 1955.

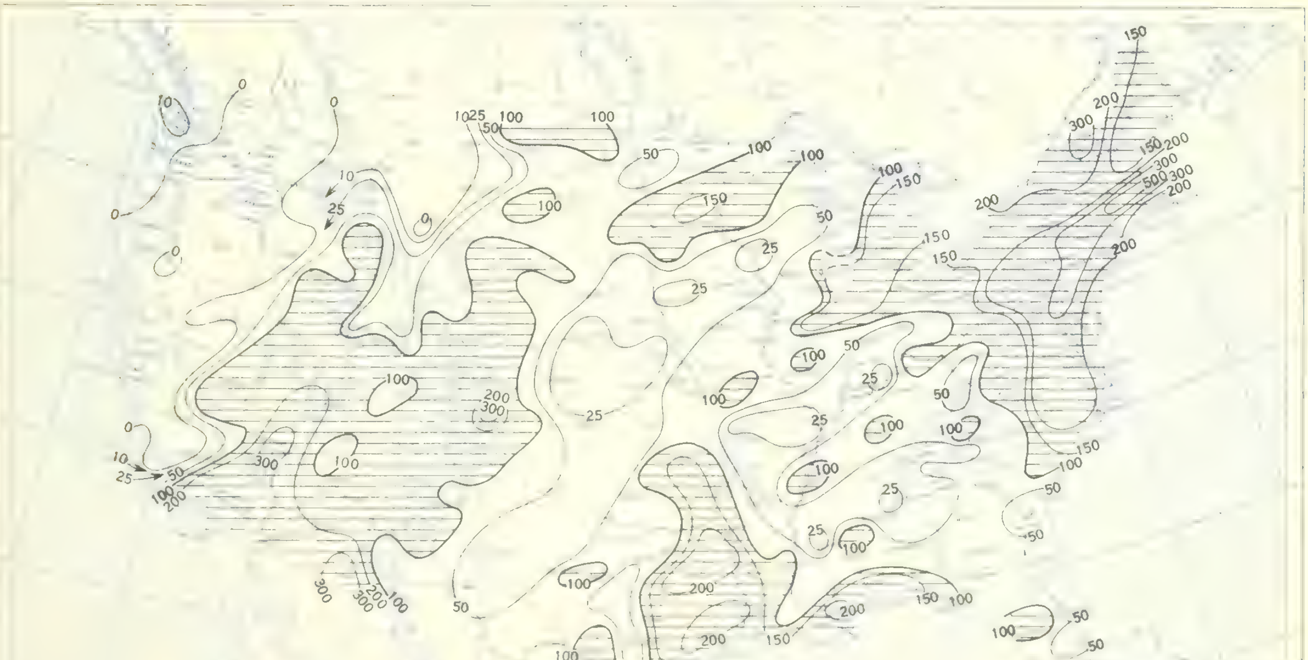


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), August 1955.

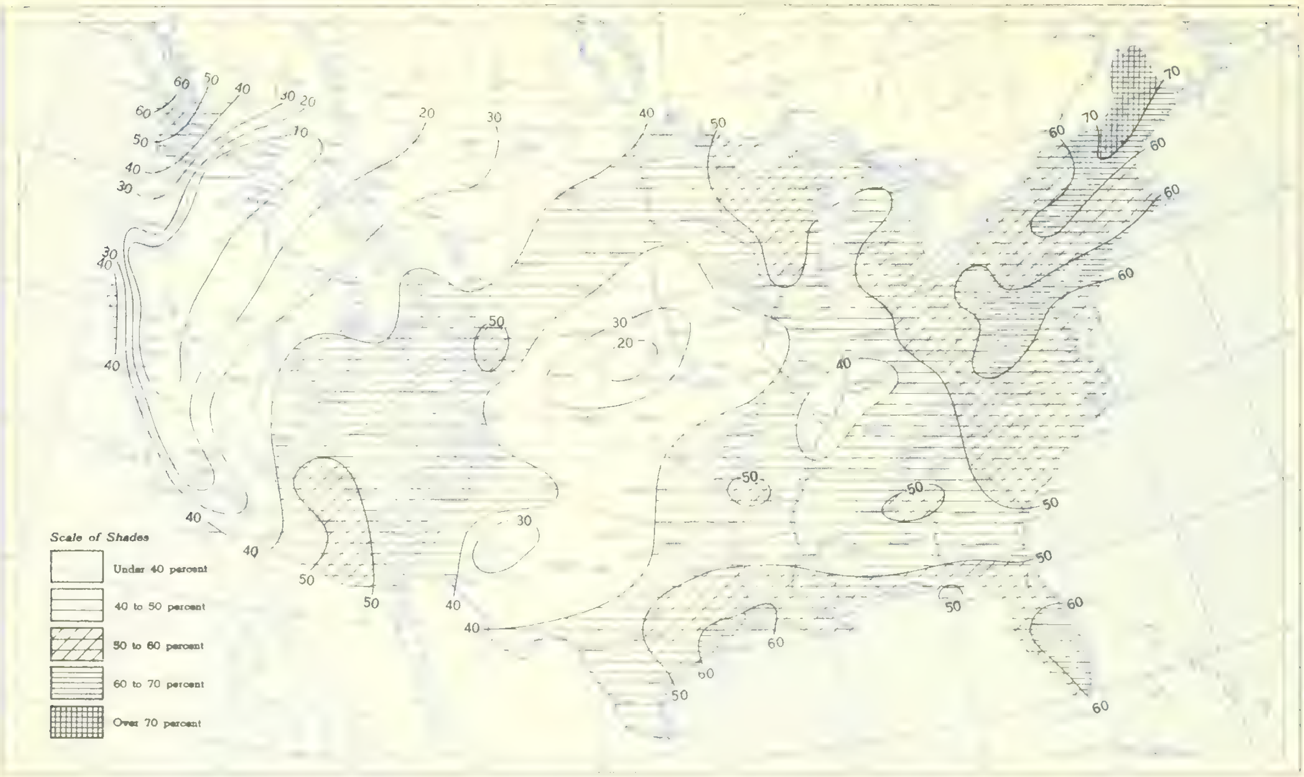


B. Percentage of Normal Precipitation, August 1955.

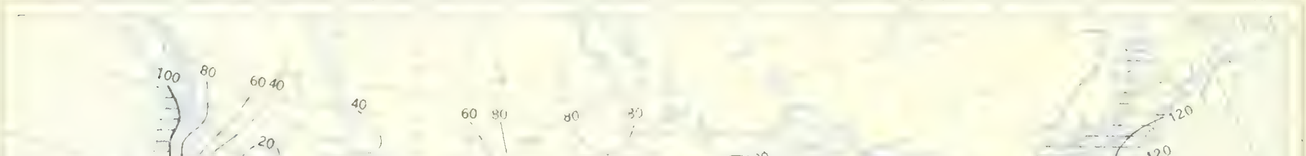


Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, August 1955.

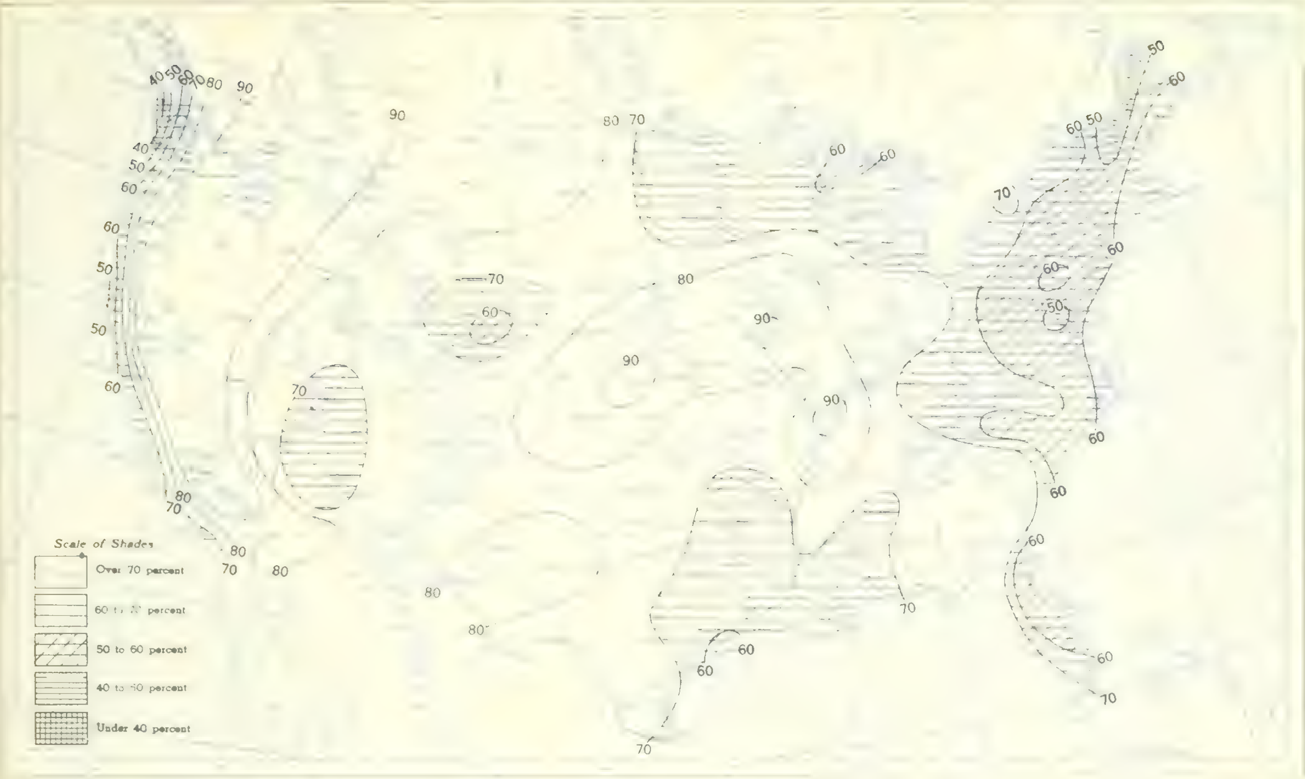


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, August 1955.

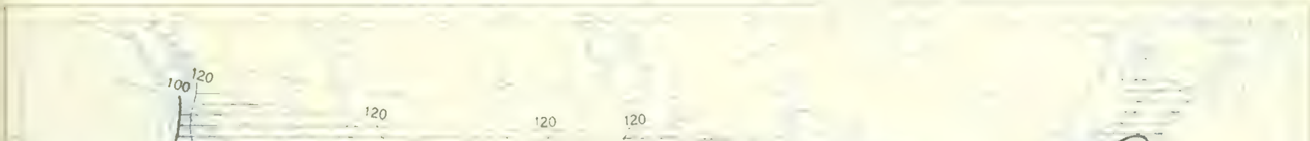


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, August 1955.



B. Percentage of Normal Sunshine, August 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, August 1955. Inset: Percentage of Normal Average Daily Solar Radiation.

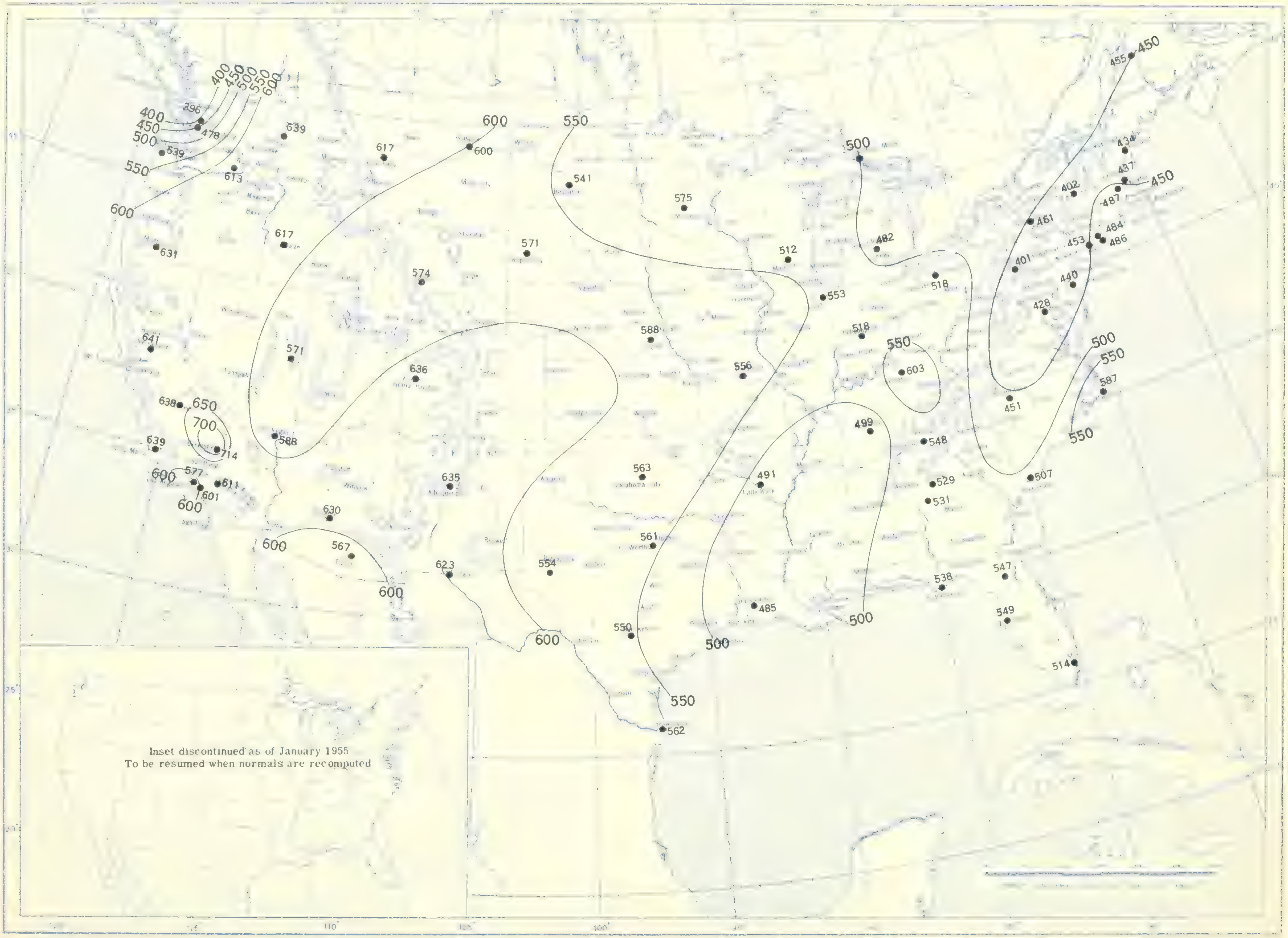
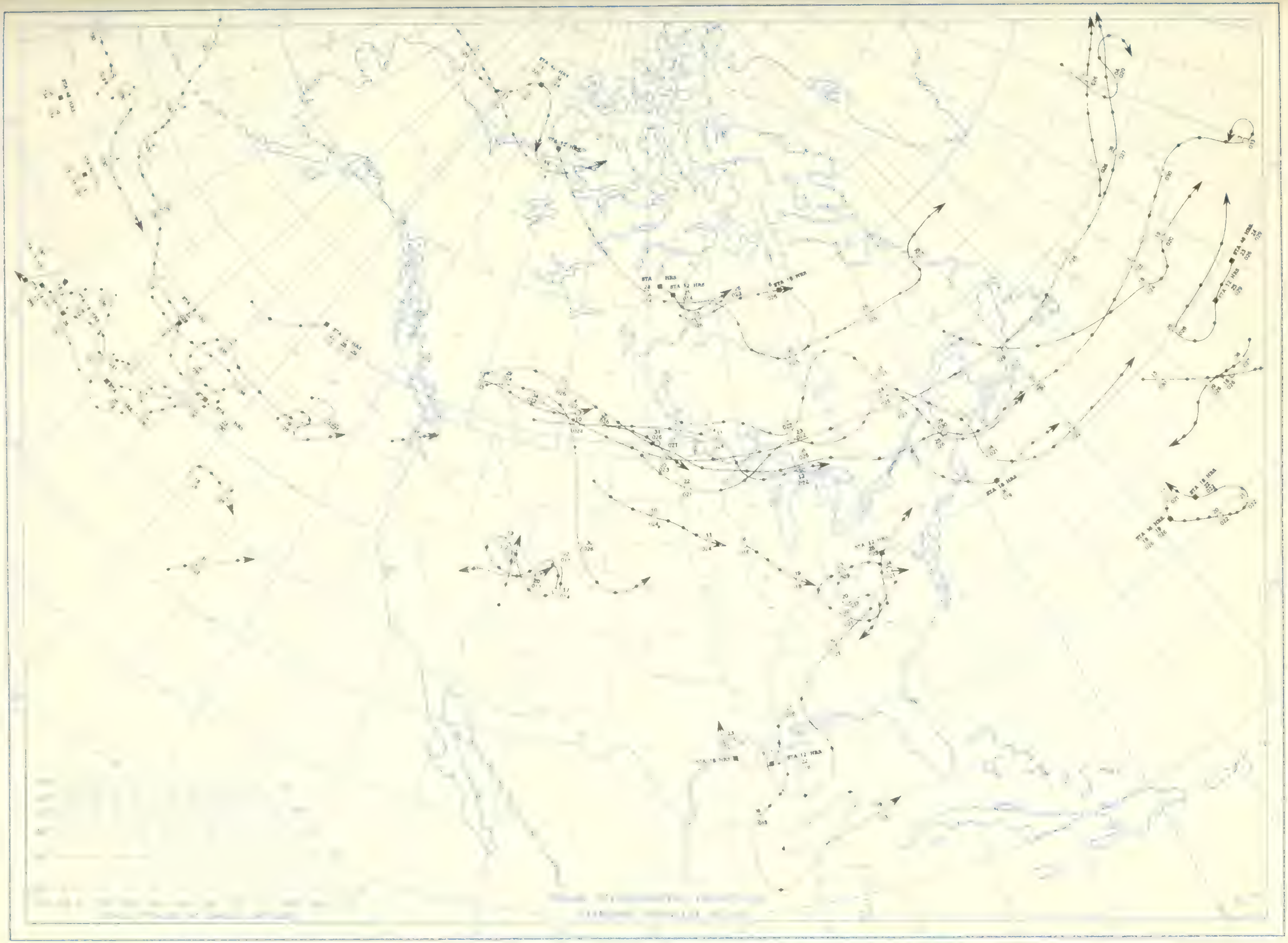


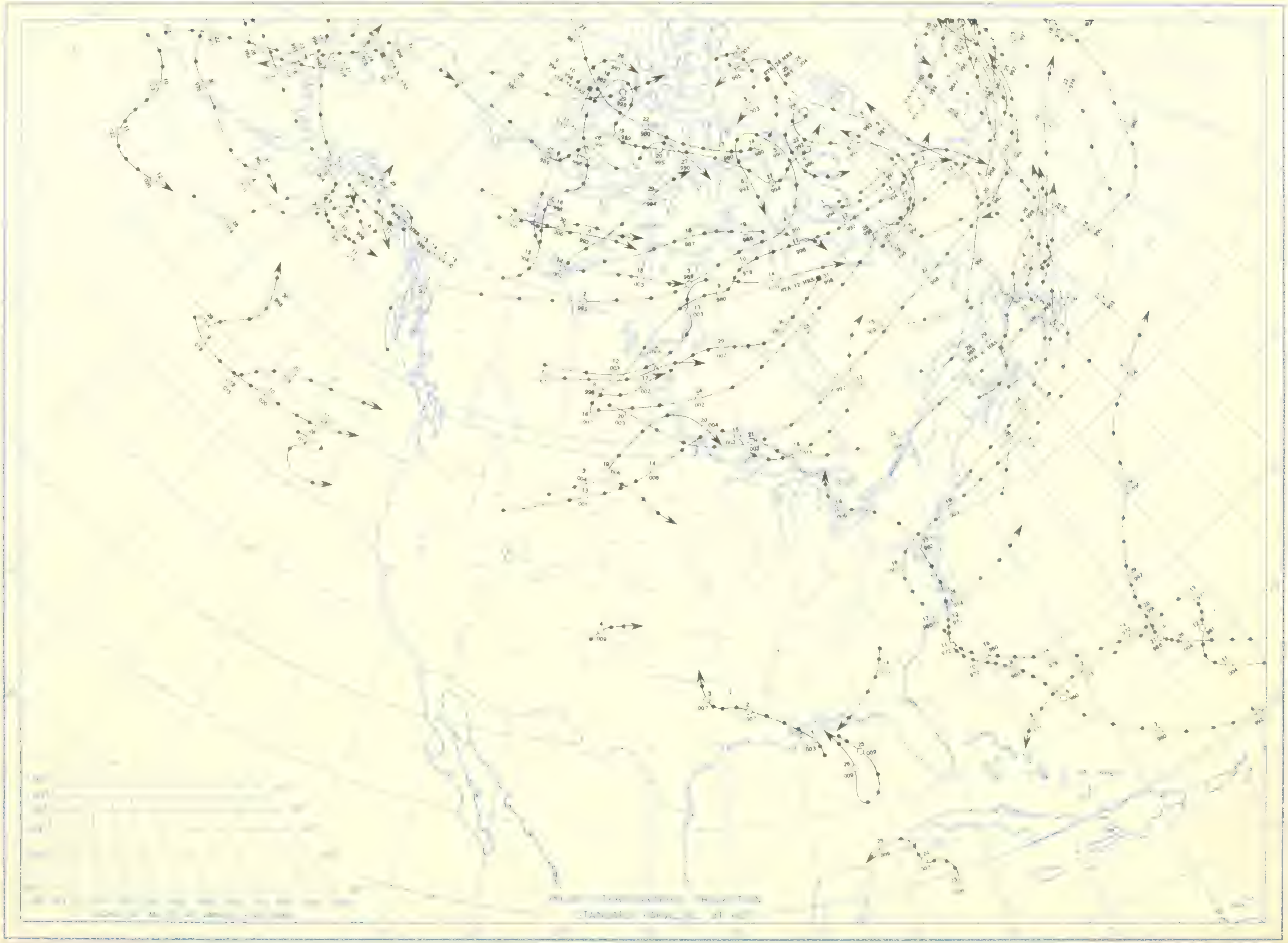
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$). Basic data for isolines are shown on chart. Further estimates are obtained from supplementary data for which limits of accuracy are wider than for those data shown.

Chart IX. Tracks of Centers of Anticyclones at Sea Level, August 1955.



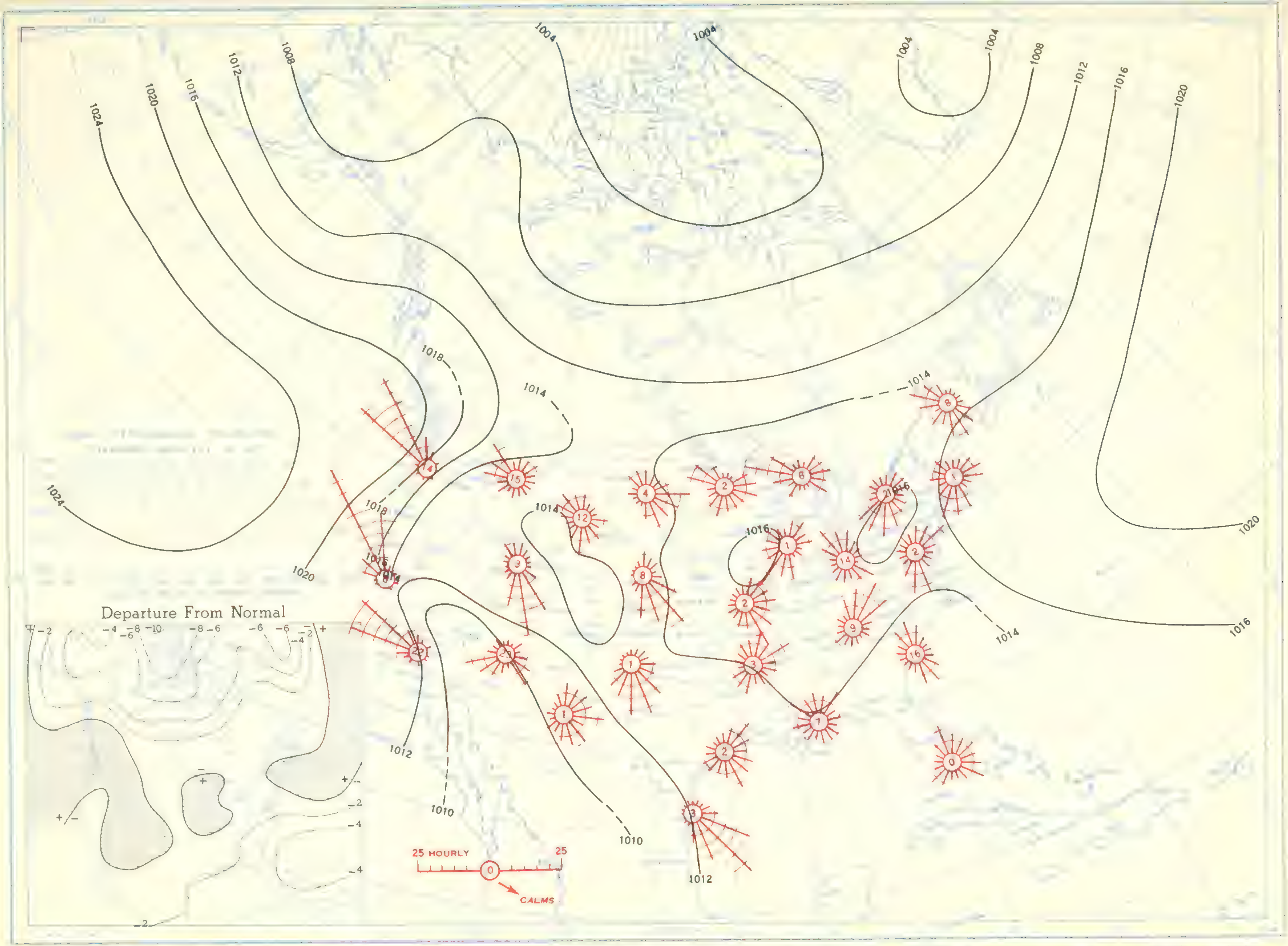
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, August 1955.



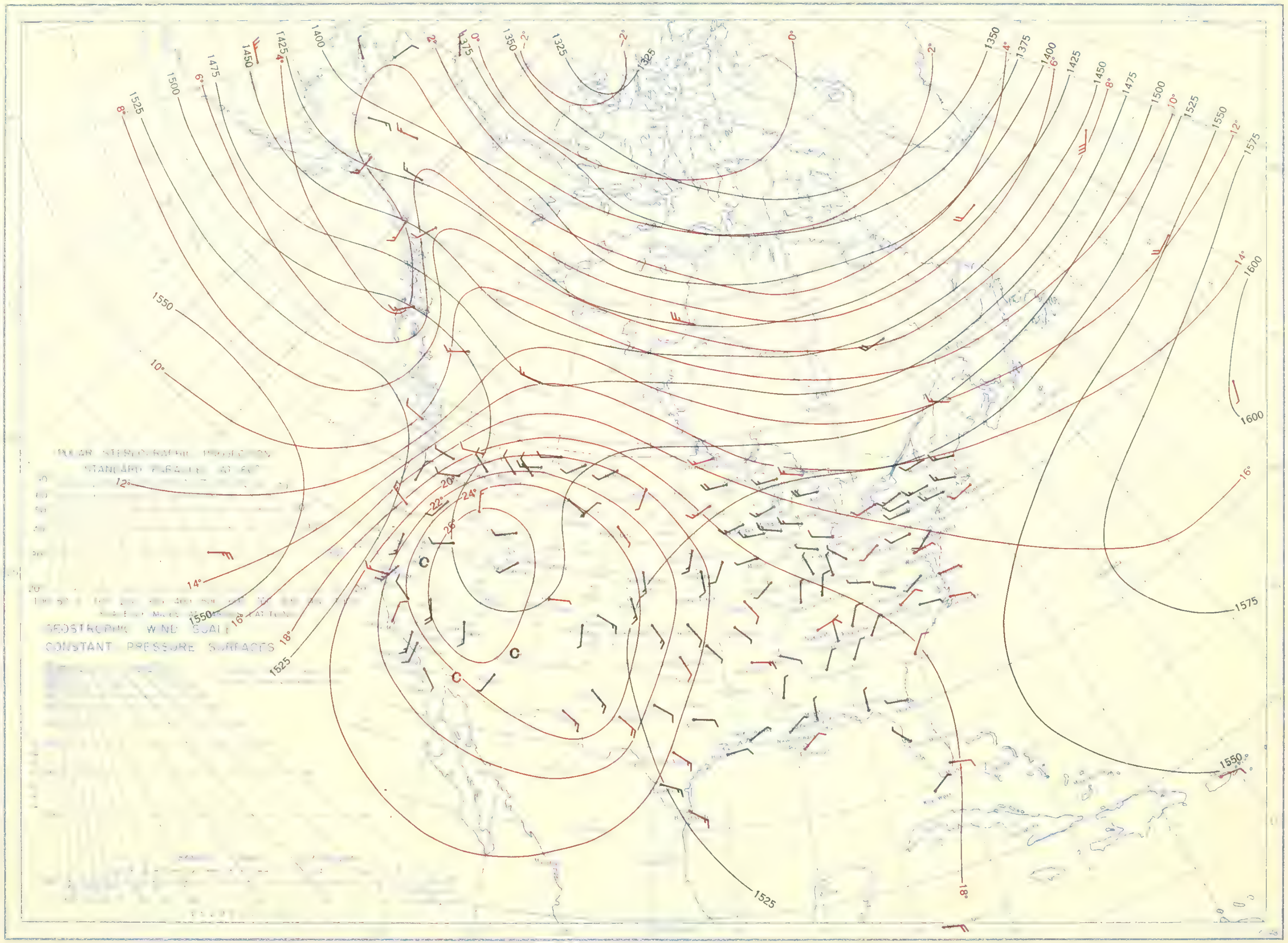
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Average Pressure (mb.) from Normal, August 1955.



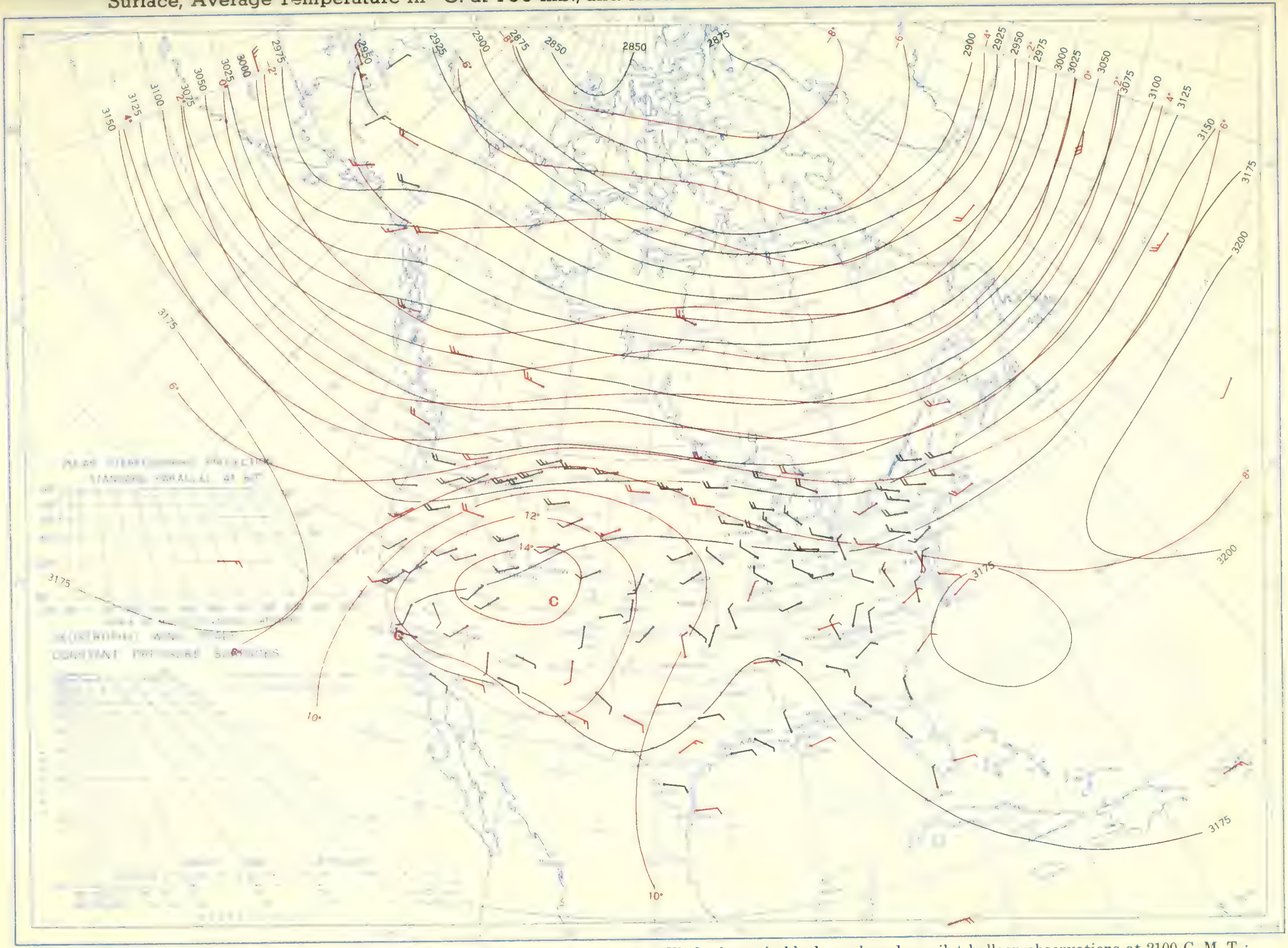
Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), August 1955.



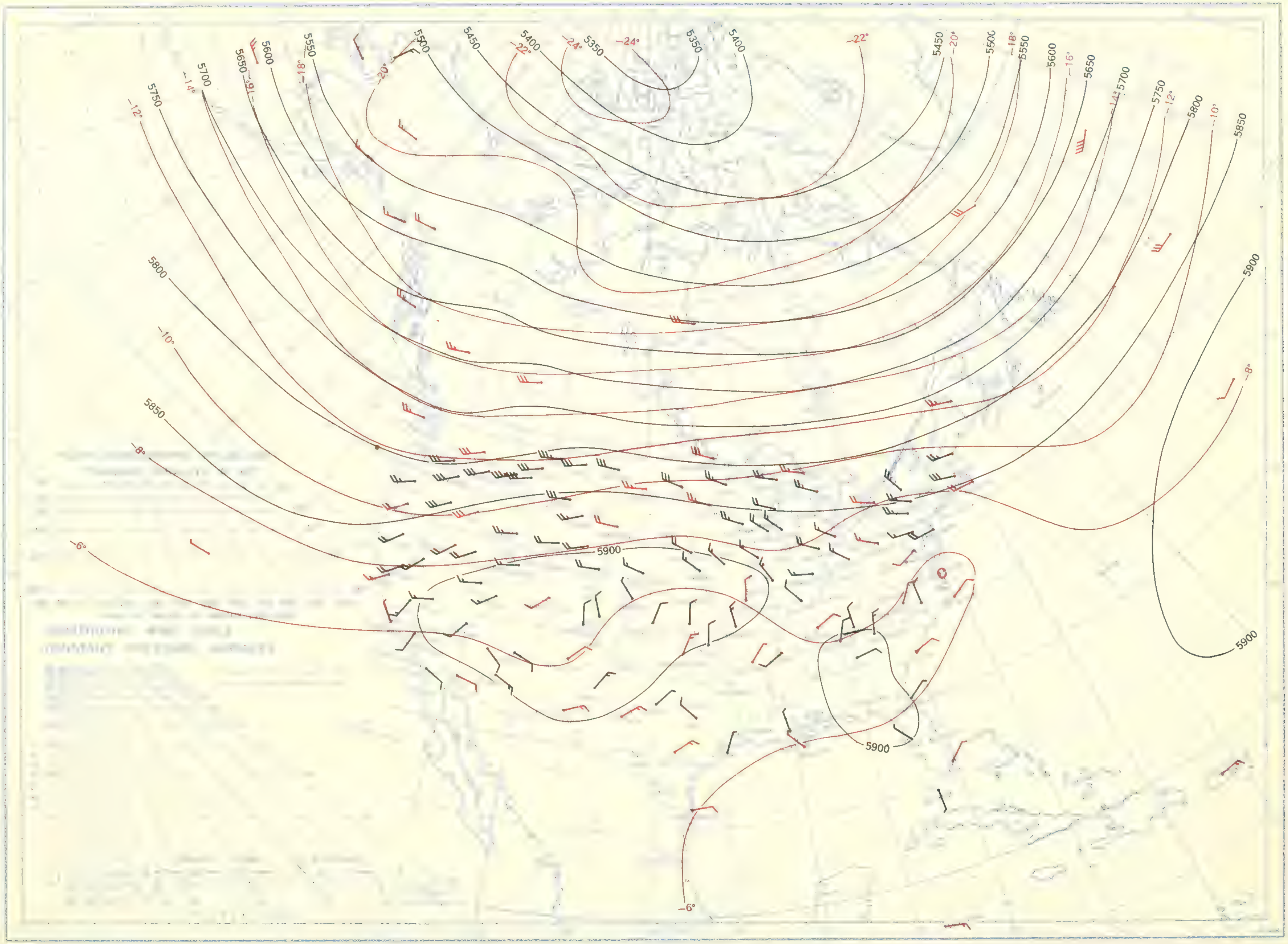
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;

Chart XIII. Average Dynamic Height in Geopotential Meters [illegible] Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), August 1955.



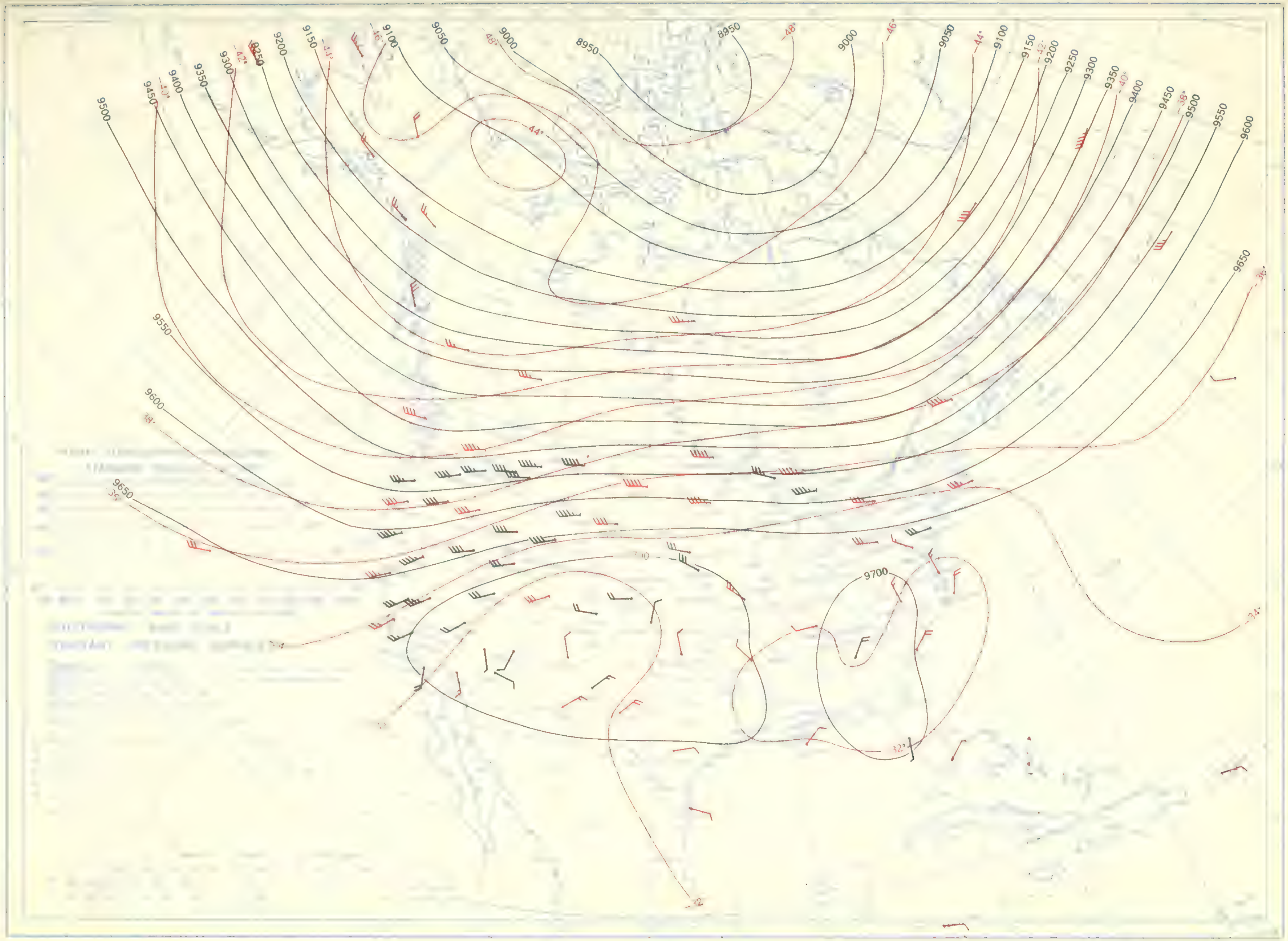
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), August 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.:

Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), August 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

SEPTEMBER 1955
Volume 6 No. 9

ASHEVILLE: 1955

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NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

olume 6 No. 9

SEPTEMBER 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

A record heat wave in the Far West early in the nth, heavy tropical storm rains in southern xas on the 6th and 7th, and hurricane Ione's ort path over the North Carolina coast on the th were the most newsworthy weather features the month. Otherwise the weather was rather eventful. Dry weather during the first half used some crop decline and delay in fall seeding erations in central and northeastern areas, but ese conditions were relieved by generous rains e latter half. Only in the Southeast was rain-ll deficient all month, resulting in serious ryness. The dry, sunny weather in nearly all reas during the first half favored fall harvesting hich was well along by the end of the month.

TEMPERATURE.--A heat wave in the Far West during e first 12 days was the outstanding temperature ature of the month. It was particularly severe California where numerous records included an l-time high of 110° in downtown Los Angeles on e 1st, a September high of 112° for Bakersfield the 12th, and 111° for Fresno on the 3d, equal-g the previous high recorded there in 1888. The at and low humidity created an extremely high ire hazard and more than 400 fires broke out in alifornia, causing losses described by the U. S. rest Service as unprecedented. The heat was also sponsible for crop losses of $5,000,000 in that tate and poultry and rabbit losses of about 4,000,000.

Shifting eastward the western heat wave was entered over the central Great Plains by the 15th hen highs of 100° or over extended northward to outh Dakota, and temperatures for the week end-ng the 19th averaged as much as 16° above normal. he heat wave east of the Rockies followed a brief ool snap which brought the season's first frost o many northern areas on the 11th and 12th.

During most of the second half of the month tem-eratures were unseasonably high in the South, here the weather had been abnormally cool early n the month, and they were well below normal in he Far West and North.

PRECIPITATION.--Although precipitation was rela-ively light over most of the country during the irst half of the month, generous amounts fell long the Gulf and South Atlantic Coasts, occurring lmost daily in Florida. A few localities in the ortheast and central portions of Oklahoma and exas during this period also received moderate o heavy amounts. In the latter area tropical storm Gladys caused heavy rains on the 6th and 7th, the Naval Base at Corpus Christi measuring 17.02 inches for the storm and Cliff Maus Field 7.68 inches in 24 hours. Light precipitation with some moderate amounts spread from the northern Great Plains to the Atlantic Coast from the 8th to 11th, and fell over the Great Lakes and Middle Atlantic States again from the 13th to the 15th.

From the 13th to the 17th a Pacific low pressure area moved across the Pacific Northwest to the northern Great Plains, bringing light to moderate and some occasional heavy rains to those areas and also to the central Rockies and central and southwestern Great Plains. The central Great Plains also received light to heavy amounts from the 20th to the 23d.

During the remainder of the month rain occurred in most areas east of the Rockies on 3 to 5 days. Extremely heavy amounts fell in Atlantic coastal areas from northeastern South Carolina to Virginia during the passage of hurricane Ione on the 19th. At Maysville, in eastern North Carolina, these rains with previous heavy rains on the 3d and 10th-11th totaled 25.47 inches for the month, the greatest monthly total in the country.

Elsewhere east of the Divide monthly totals ranged from 1 to 4 inches except in portions of the western Great Plains and Southern States where they were generally less than one-half inch.

The most serious deficiencies for the month occurred in the Southern States where rainfall was much below normal in both August and September, some stations during the latter month receiving only a trace.

Parts of the Southwest also received no measurable amounts during the month, but no serious drought occurred owing to good rains in August.

DESTRUCTIVE STORMS.--Hurricane Ione, pursuing a short course over the mainland of the United States near Hatteras, N. C., on the 19th, was by far the most destructive storm of the month. Most damage occurred in North Carolina where losses resulting from winds, tides, and flooding were estimated at $88,000,000. Flooding resulting from Ione's heavy rains also caused some damage in northeastern South Carolina and southeastern Virginia.

In southern Texas tropical storm Gladys was responsible for damage estimated at $400,000, mostly in the Corpus Christi area where nearly all piers in the Bay were damaged by tides.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1 OCTOBER

Section	Temperature								Precipitation					
			Monthly extremes								Monthly extremes			
	Average	Departure from normal	Station	Highest	Date	Station	Lowest	Date	Average	Departure from normal	Station	Greatest	Station	L
	°F	°F		°F			°F		In.	In.		In.		
Alabama	77.1	1.6	Greensboro	101	21	Jasper	47	15	1.05	-2.27	Lockhart	5.12	20 Stations	0
Arizona	72.7	.0	Gila Bend	116	6	Alpine	17	30	.07	-1.32	Rucker Canyon	1.80	81 Stations	
Arkansas	75.7	1.2	2 Stations	103	8+	2 Stations	40	13	3.32	.08	Aplin 1W	11.90	Dermott	
California	70.6	.9	Cow Creek	122	4	Burney	17	18	.30	-.05	Crecent City	3.24	261 Stations	
Colorado	60.2	1.8	Holly	105	9	Fraser	9	27	.83	-.56	Roggen 2S	5.75	2 Stations	
Connecticut	61.8	-.8	2 Stations	86	4+	2 Stations	31	23	3.59	-.29	Lake Konomoc	6.17	New Haven WB AP	2
Delaware	67.6	-.9	Selbyville	88	16	3 Stations	42	27	2.60	-.80	Bridgeville 1NW	3.98	Wilmington City Hall	1
Florida	80.8	1.3	3 Stations	98	7+	2 Stations	60	2+	5.98	-.88	Hilliard	12.23	Mt. Pleasant	
Georgia	76.2	.4	2 Stations	100	8+	Blairsville Exp. Sta.	45	14+	3.82	-.05	Blackbeard Island	20.59	Goat Rock	
Idaho	57.2	-.1	Mountain Home 1NE	107	5	Obsidian 4NNE	9	22	.95	-.04	Grangeville	3.41	Shoshone	.
Illinois	69.4	1.7	Carlyle	102	9	Freeport	32	12	2.86	-.78	Effingham	8.85	Chester	.
Indiana	68.6	1.3	2 Stations	101	9+	Warsaw	31	12	4.36	1.08	Rushville Sewage Pl	8.34	Rochester	1.
Iowa	66.6	2.3	Missouri Valley	104	9	Sibley	23	11	3.01	-1.00	Vinton	8.07	Inwood 2W	.
Kansas	72.0	2.0	Minneapolis	105	8	Smith Center 3W	38	28	3.81	.88	Garnett	11.34	Saint Francis	.
Kentucky	72.6	2.4	Murray	101	7+	Hickman 1E	36	13	3.21	.30	Burkesville	7.60	Rochester Lock 3	1.
Louisiana	79.3	1.2	Lake Providence	102	20	Converse	51	3	2.93	-.84	Point Au Fer Reef	11.80	Marion	.
Maine	56.4	-1.3	4 Stations	90	18	Gardiner	22	27	1.69	-1.91	Machias	4.59	Long Falls Dam	.
Maryland	67.6	.1	Western Port	91	15	2 Stations	32	13+	2.15	-1.21	Pocomoke City 4SW	8.24	Dalecarlia Res, D.C.	.
Massachusetts	61.2	-.9	Haverhill	92	18	West Cummington	25	23	2.82	-.88	Rochester	4.85	Mount Wachuset	1.
Michigan	60.1	.1	Wayne	98	19	2 Stations	21	26	1.55	-1.75	Bergland Hydro	7.36	Hubbard Lake Dam	.
Minnesota	58.6	.1	Tracy Power Plant	100	15	Ada	22	11	2.43	-.39	Duluth	7.05	Springfield	.
Mississippi	77.9	2.0	3 Stations	101	9+	3 Stations	49	3+	1.38	-1.68	Coffeeville	7.65	2 Stations	.
Missouri	72.0	2.7	4 Stations	102	7+	Princeton	32	11	3.13	-.87	Butler CAA AP	8.76	La Belle	.
Montana	54.7	-1.3	Thompson Falls	101	5	2 Stations	12	10+	.66	-.62	Hungry Horse Dam	3.67	5 Stations	T
Nebraska	66.7	2.3	4 Stations	106	8	Ashland 3NE	27	11	2.70	.62	2 Stations	6.45	Newcastle	.
Nevada	63.8	1.0	Indian Springs	117	4	Mountain City RS	15	28	.50	.08	Yerington	2.15	13 Stations	.
New Hampshire	57.4	-1.0	Windham	92	18	Grafton	19	23	1.73	-1.98	Mount Washington	3.04	Berlin	.
New Jersey	65.6	-.3	4 Stations	88	1+	Layton 3NW	30	22	2.63	-1.05	Layton 3NW	8.79	Sandy Hook	1.
New Mexico	66.9	1.3	2 Stations	100	10+	Eagle Nest	14	30	1.02	-.81	Bitter Lakes WL Ref.	4.81	27 Stations	.
New York	59.6	-1.2	Canandaigua 3S	96	19	Old Forge 2SW	19	22	2.53	-.93	2 Stations	4.90	Bushnellsville 1NE	.
North Carolina	72.3	.8	Caroleen	97	22	Celo 2S	37	15	7.76	3.62	Maysville 6SW	25.47	Blue Ridge P. O.	.
North Dakota	56.6	-.5	Almont 7SW	102	3	Medora 4NNE	16	11	1.61	.08	Pembina 2N	5.26	Sentinel Butte	T
Ohio	67.5	1.9	Milford	99	9	Millport 2NW	30	13	2.71	-.19	Hamilton Water Works	8.48	Sandusky WB City	.
Oklahoma	76.2	2.0	Kenton	104	14	Kenton	43	30	3.83	.68	Clayton	11.33	Arnett	.
Oregon	58.3	-.4	Illahe 1N	111	3	Fremont	7	27	1.50	.31	Valsetz	8.59	Redmond	.
Pennsylvania	63.5	-.4	Claysville 3W	98	19	Hawley 1S Dam	27	27	2.34	-1.03	Springboro	4.55	New Castle 1N	1.
Rhode Island	62.3	-1.0	2 Stations	85	18	Kingston	35	22	3.86	.50	Kingston	5.26	Block Island WB AP	3.
South Carolina	75.0	.4	do	98	21+	Caesars Head	46	14+	5.45	1.29	Loris	15.03	Anderson	.
South Dakota	62.2	.6	do	105	15	Ralph	15	11	1.86	.31	Scenic	8.65	Bonilla 3SSW	.
Tennessee	74.0	2.6	do	101	8+	3 Stations	44	13	2.84	-.32	Carthage Sub. Sta.	6.99	Boonshill	.
Texas	78.1	1.8	Presidio	105	10	Miami	42	26	2.95	.06	Raymondville	15.90	Thornton	.
Utah	62.4	1.6	Zion NP	106	6+	4 Stations	20	23+	.72	-.32	Silver Lake Brighton	2.06	5 Stations	.
Vermont	56.7	-1.4	Randolph	93	18	Cavendish	21	23	2.15	-1.54	Wardsboro	4.14	West Topsham	.
Virginia	68.7	.2	Bristol	95	23	Big Meadows	37	27	2.91	-.33	Holland 1E	10.34	Trout Dale	.
Washington	58.7	-.2	3 Stations	103	6+	Republic	22	24+	1.48	-.16	Cougar 1E	7.52	Chesaw	.
West Virginia	67.3	1.1	Williamson	100	17	Canaan Valley	27	21	1.74	-1.23	Arbovale 2	4.18	Lindside	.
Wisconsin	60.6	.7	3 Stations	100	9	Long Lake Dam	19	12	1.70	-2.02	Port Wing	6.36	Baldwin	.
Wyoming	56.2	1.0	2 Stations	100	1+	2 Stations	10	22+	1.05	.15	Moose 3NW	4.55	Pole Mountain	.
Puerto Rico	78.8	.0	Caguas	96	1	Garzas Dam	57	6	9.77	1.35	Toro Negro Reservoir	30.31	Santa Isabel 3NW	2.

+ And also on a later date or dates.

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations e 2

ate and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F or above	No. of days: Min 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet, Hail: Total	Snow, Sleet, Hail: Max depth on ground	Wind: Average hourly speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F	°F	°F.	°F.	°F.		°F				°F	%	In.	In.	In			In.	In.	M p h		M p h			0–3	4–7	8–10	0–10	%
ABAMA																																
ingham	610	992.4	1017.3	90	65	77.6	2.8	97	8+	56	3	15	0	62	64	T	-2.71	T	0	1	.0	0	6.0	NE	27	NE	13	12	9	9	5.2	61
le	211	1008.1	1016.1	89	71	79.8	2.1	95	8+	67	15	17	0	71	82	2.93	2.85	0.78	6	6	.0	0	7.0	NE				7	11	12	6.3	
gomery	198	1009.3	1016.7	90	68	79.1	2.0	96	7+	61	21	17	0	67	72	.77	2.74	.67	3	1	.0	0	6.1	NE	27	E	16	6	12	12	6.0	65
IZONA																																
staff	6993	---	----	76	39	57.6	.6	86	3+	23	21	0	8			T	1.85	T	0	2	.0	0				-		21	6	0	1.6	
nix	1114	970.5	1008.6	98	68	82.9	.2	107	11	55	21	28	0	51	36	T	-1.00	T	0	1	.0	0	4.6	E	*18	SE	1+	29	1	0	.6	99
cott	5014	847.6	1012.1	85	52	68.5	.3	96	3+	38	20	13	0			.12	2.04	.12	1	1	.0	0	8.5	SW	38	SW	17	25	5	0	1.1	94
on	2558	923.1	1009.0	97	66	81.2	1.1	103	3+	58	22+	29	0	43	30	.05	1.43	.05	1	2	.0	0	7.3	SE	27	E	1	27	3	0	.9	97
low	4880	851.3	1010.0	89	53	70.9	2.3	97	6	41	21+	15	0	34	30	T	1.12	T	0	2	.0	0	7.3	WSW	*32	SW	16	25	5	0	1.4	-
	199	1002.4	1007.5	105	73	88.7	.4	115	3+	61	20	30	0	52	34	.00	-.64	.00	0	0	.0	0	6.5	SSE	29	S	12	30	0	0	.1	99
KANSAS																																
Smith	458	993.3	1015.9	90	65	77.0	2.0	98	8+	55	13+	18	0	64	70	4.65	.94	2.14	7	5	.0	0	6.0	ENE	32	N	10	16	8	6	3.8	69
le Rock	257	1003.3	1016.4	89	66	77.5	2.7	99	8	57	13+	16	0	61	63	4.75	1.90	2.40	4	3	.0	0	7.6	ENE	29	E	30	20	3	7	3.6	69
rkana	361	------	------	89	67	77.8	.6	96	7+	57	13	17	0	--	--	6.83	4.04	3.60	6	5	.0	0	- -	-			--		-	-	---	--
LIFORNIA																																
rsfield	489	993.2	1010.9	93	62	77.6	2.0	112	3	53	16+	18	0	46	36	.00	-.07	.00	0	0	.0	0	5.5	NW	*20	WNW	6	24	6	0	1.3	-
op	4108	870.6	1008.5	90	44	67.1	-.2	103	3+	35	27	15	0	--	--	.14	-.05	.09	3	0	T	0	----	- -	-	-		23	4	3	1.8	-
Canyon	5280	839.8	1012.2	73	53	63.0	-.5	93	4	41	17+	4	0	--	--	.66	.10	.65	2	2	.0	0	-	- -	-	--	--	23	2	5	2.3	-
ank	699	985.4	1011.3	90	62	75.9	4.7	111	5+	47	30	14	0	53	54	T	-.29	T	0	0	.0	0	4.7	S	*17	W	6	22	7	1	2.3	--
ka CO	43	1012.9	1014.6	60	49	54.8	-1.4	69	25	42	26	0	0			1.18	.51	1.05	6	0	.0	0	5.7	---	27	N	18	11	10	9	5.0	64
no	331	999.0	1011.5	92	58	74.6	1.1	111	3	49	16+	15	0	47	44	.00	-.05	.00	0	0	.0	0	4.8	NW	22	NW	17	27	2	1	.9	99
Angeles CO	312	------	------	85	64	74.5	3.5	110	1	52	30	12	0	56	62	T	-.27	T	0	0	.0	0	5.4	---	20	W	1+	18	10	2	2.5	84
Angeles	99	1007.5	1011.2	79	62	70.4	3.7	108	1	55	25	4	0	58	70	T	-.21	T	0	0	.0	0	6.5	WSW	%24	W	5	16	12	2	3.5	--
Shasta CO	3544	892.0	1014.6	78	44	61.0	1.2	103	2	31	15	6	2	--	--	.92	.16	.91	3	0	.0	0	- --	---	--	---	-	21	4	5	2.5	-
and	3	1012.9	1013.4	73	52	62.4	-.9	96	1	46	27	3	0	52	75	T	-.09	T	0	0	.0	0	6.0	WNW	*21	W	15+	23	4	3	2.5	--
Bluff	341	998.6	1011.2	91	60	75.5	.5	111	4	48	29	13	0	38	31	1.11	.78	.85	3	1	.0	0	9.1	NNW	30	SE	14	26	1	3	1.5	96
amento	17	1010.2	1011.1	89	54	71.5	1.2	108	2+	47	15+	12	0	47	50	.67	.61	.42	2	1	.0	0	7.4	SW	34	W	16	26	3	1	1.0	94
lberg	4517	862.2	1010.5	81	60	70.8	1.4	97	3+	42	18	11	0	-	-	.00	-.23	.00	0	0	.0	0	- ---	---	--	---	--	27	2	1	.8	--
Diego	19	1007.8	1010.8	78	65	71.5	2.8	104	1	57	19	3	0	60	70	T	-.17	T	0	0	.0	0	6.3	NW	25	W	11	17	6	7	3.7	66
Francisco CO	52	------	------	66	52	59.1	-2.5	88	1	48	26+	0	0	--	--	.02	-.11	.01	2	0	.0	0	9.6	---	27	W	19	20	7	3	3.2	78
Francisco	8	1012.5	1013.1	72	51	61.3	-.7	94	1	45	21+	1	0	52	78	T	-.11	T	0	0	.0	0	9.5	NW	29	WNW	6	24	3	3	2.3	--
a Maria	238	1004.1	1013.0	71	51	60.9	-1.2	102	1	45	16+	2	0	52	78	T	-.12	T	0	0	.0	0	5.6	WNW	*18	W	15+	18	6	4	3.8	
LORADO																																
osa	7538	774.8	1017.9	76	35	55.6	.9	83	1+	22	21	0	8	--	--	.15	-.54	.05	5	2	.0	0	--			- - -	-	22	6	2	2.2	--
rado Springs	6173	812.7	1014.4	77	48	62.2	.2	89	1+	37	27	0	0	36	44	1.35	.28	1.19	5	5	.0	0	10.8	SSE	*34	NW	9	19	7	4	3.1	--
ver	5292	838.8	1013.4	78	50	63.9	1.2	92	1	38	20+	5	0	36	47	2.72	1.64	1.71	6	5	.3	T	7.6	S	47	NW	20	18	7	5	3.4	77
nd Junction	4849	858.8	1011.8	84	56	69.9	2.6	95	2+	42	27	10	0	31	27	.38	-.64	.35	2	3	.0	0	10.8	ESE	47	SW	14	22	7	1	2.0	89
blo	4639	857.4	1013.5	82	51	66.1	1.3	96	9	42	28	8	0	41	48	.83	.08	.42	5	2	T	T	7.6	E	34	N	6+	20	5	5	2.7	81
NNECTICUT																																
lgeport	7	1020.0	------	74	57	65.7	.5	83	5	45	22+	0	0	--	--	2.84	.71	1.13	8	1	.0	0	----	- -	--	---	--	7	12	11	5.6	-
tford	169	1014.8	1020.6	73	51	62.1	-1.7	85	5	37	22+	0	0	53	75	3.15	.29	1.60	10	1	.0	0	9.3	S	28	W	20	10	11	9	5.2	62
Haven	6	1019.4	1020.0	73	55	63.9	.3	82	7	40	26	0	0	--	--	2.33	1.13	1.08	7	1	.0	0	6.9	--	21	SW	28	6	15	9	5.8	66
LAWARE																																
ington	73	1016.5	1019.8	77	57	67.2	-.8	86	20	45	26+	0	0	59	77	2.27	-1.53	.89	7	0	.0	0	7.0	S	--	---	--	9	9	12	5.9	-
ST. OF COLUMBIA																																
ington CO	72	------	------	78	62	70.3	.4	89	6	50	14+	0	0	--	--	.69	-3.67	.30	6	0	.0	0	6.5	---	21	NW	20	-	--	--	---	--
. Nat'l. AP	14	1015.6	1020.0	77	63	69.9	.3	87	20	51	14	0	0	60	73	.65	-3.47	.19	6	0	.0	0	9.3	NE	31	NE	19	10	6	14	6.0	54
ORIDA																																
lachicola CO	13	1013.9	1015.1	86	74	80.2	1.3	90	7+	72	13+	2	0	--	--	2.61	5.04	1.45	11	8	.0	0	6.9	---	21	NE	9	10	7	13	5.5	76
tona Beach	31	1013.8	1015.4	88	72	80.1	.7	91	11+	68	22	4	0	72	80	6.66	.14	1.85	13	10	.0	0	8.7	E	*29	NE	17	4	15	11	6.2	--
t Myers	15	1013.8	------	90	73	81.4	.1	93	18	68	30	24	0	--	-	10.50	1.91	4.03	16	17	.0	0	7.2	--	*31	SSW	20	9	10	11	5.6	
ksonville CO	18	------	------	88	73	80.5	1.4	95	20+	68	27	10	0	--	--	6.70	-.09	2.07	16	--	.0	0	-- -	- - -	--	---	--	--		--	---	--
ksonville	24	1014.9	1016.0	89	73	80.8	1.6	95	21	68	27	15	0	72	80	10.56	3.60	2.66	17	7	.0	0	8.8	NE	42	NE	9	3	14	13	6.6	46
West CO	9	1012.3	------	90	77	83.3	.6	92	13+	74	6+	18	0		--	4.05	-2.00	1.61	19	12	.0	0	7.5	---	23	S	7	2	20	8	6.0	75
eland	214	------	------	89	73	81.3	1.2	93	12	71	1+	13	0		--	5.25	-1.12	2.29	9	13	.0	0	5.0	---	--	---	-	4	17	9	5.8	50
mi CO	8	------	------	87	76	81.1	.1	89	12+	70	7	0	0	--	--	6.40	-.32	2.23	22	4	.0	0	11.0	---	*30	SW	7+	6	19	5	4.9	67
mi	8	1012.7	1013.8	89	75	82.1	.4	92	19	72	29	12	0	73	78	5.52	-2.81	1.80	16	5	.0	0	9.4	ENE	29	SW	7	4	17	9	5.8	--
mi Beach	9	------	------	87	78	82.0	.1	89	19	73	2+	0	0	--	--	4.95	-.90	1.15	22	0	.0	0	---	--	-	-		3	15	12	--	
ando	106	1011.1	1015.3	90	73	81.4	.7	93	12	70	19+	20	0	73	82	6.97	-.18	2.50	14	9	.0	0	7.2	NE	*32	SSW	10	4	20	6	5.7	--
sacola CO	13	1012.9	------	87	73	79.9	1.6	93	7	69	15	5	0	--	--	1.08	-4.70	.44	7	3	.0	0	7.0	---	16	E	13+	--	--	--	---	67
lahassee	64	1013.2	1015.7	88	70	79.1	1.1	93	1	66	21	10	0	71	83	5.41	.05	1.65	9	11	.0	0	5.2	NE	--	---	--	5	10	15	6.5	--
pa	19	1013.5	1015.0	89	73	80.7	.2	91	5+	69	30	13	0	73	83	8.82	2.37	2.23	17	15	.0	0	8.3	NE	*25	ENE	7+	9	11	10	5.7	77
t Palm Beach	15	1013.0	1013.9	90	76	82.6	1.4	92	7+	71	21	16	0	73	78	4.28	-4.84	2.07	15	7	.0	0	11.6	E	*43	SSW	8	4	16	10	6.0	--
EORGIA																																
ens	798	989.1	------	84	64	74.4	-.8	95	21	56	14	6	0	--	--	1.17	1.89	.63	5	3	.0	0	8.7	-	23	ENE	17+	5	6	19	6.8	
anta	975	976.5	1017.6	85	66	75.4	1.0	94	21	58	14	7	0	63	71	.96	-2.00	.41	7	1	.0	0	7.7	ENE	24	NE	13	6	7	17	6.6	48
usta	143	1010.5	1017.0	86	66	75.7	-1.3	94	21	57	21+	7	0	68	82	1.59	-1.62	.56	9	2	.0	0	5.7	NE	*20	E	8	5	7	18	7.3	-
umbus	385	1003.2	1017.2	88	67	77.3	1.1	96	21+	59	21	12	0	-	--	.42	-1.94	.34	6	0	.0	0	----	--			--	8	6	16	6.6	-
on	356	1003.4	1016.9	86	67	76.5	-1.0	94	21+	59	14	11	0	53	69	3.54	.62	1.63	11	3	.0	0	6.6	NNE	30	E	16	5	9	16	6.9	59
e	637	995.0	------	89	62	75.2	1.0	98	21	51	14	13	0	-	--	1.13	-1.85	.70	3	2	.0	0	--			--	--	9	9	12	5.7	
annah	48	1014.1	1016.5	85	69	76.7	-.6	92	1	64	13	2	0	71	86	5.61	-.89	1.14	15	8	.0	0	9.0	NE	32	NE	9	2	9	19	7.8	40
DAHO																																
se	2842	918.7	1013.8	77	48	62.5	.1	98	6	31	22	8	1	37	43	.12	-.34	.08	3	0	.0	0	8.5	SE	37	W	14	20	4	6	3.0	87
ho Falls 46W CO	4933	849.0	1016.3	74	36	55.1	-.9	96	6	20	29+	7	6	--	-	.21	-.15	.12	3	0	.0	0	8.6	---	a36	WSW	28	--	--	--		
ho Falls 42NW CO	4790	------	------	74	35	54.9	-.5	95	1+	19	30	7	12	-	--	.27	-.32	.21	2		- -	-	6.4	---	a34	SSW	28	-	--	--	---	--
iston	1413	963.4	1014.7	77	47	61.9	-1.3	99	4	34	22+	8	0		-	1.96	1.00	1.73	3	1	.0	0	-	--	-	---	--	14	4	12	4.5	—
atello	4444	862.9	1014.1	75	44	59.4	-.4	97	6	29	23	7	1	32	40	.29	-.61	.11	4	1	.0	0	11.1	SW	50	W	28	17	7	6	3.7	85
LLINOIS																																
ro CO	314	1004.1	------	87	65	76.2	3.2	96	9	52	13	14	0	-	--	1.40	-1.92	.74	7	5	.0	0	6.9		27	NW	27	19	4	7	3.3	88
cago	610	995.3	1018.0	78	58	67.9	2.3	95	9	44	12	6	0	50	58	1.47	-1.76	.56	4	3	.0	0	8.0	SW	34	S	29	18	6	6	3.1	78
ine	589	996.3	1018.4	79	54	66.4	1.0	98	9	38	12	3	0	50	61	2.40	-1.69	.69	9	7	.0	0	10.4	E	41	S	13	21	2	7	3.1	83
ria	654	995.6	1017.8	79	56	67.6	1.3	94	9	43	12	4	0	53	62	2.62	-1.11	.86	7	5	T	T	9.2	---	31	NW	21	19	4	7	3.2	76
ingfield	587	994.6	1017.6	82	57	69.7	2.8	97	9	39	12	8	0	53	60	2.60	-1.30	1.69	6	4	.0	0	10.1	S	30	W	10	19	7	4	3.3	79
NDIANA																																
nsville	383	1002.0	1017.5	87	58	72.4	1.9	99	9	41	13	15	0	57	67	2.88	.52	2.40	5	3	.0	0	6.7	SSW	38	SW	29	17	7	6	3.1	74
t Wayne	801	987.1	1018.1	80	53	66.7	2.1	94	17+	39	12	7	0	52	65	2.46	.61	.75	6	4	.0	0	10.5	SW	36	S	29	14	9	7	4.3	77
ianapolis	793	988.8	1018.5	82	56	68.9	1.7	95	9	40	12	8	0	54	63	6.01	2.34	2.45	7	5	.0	0	8.9	NE	34	NW	21	19	6	5	3.6	73
th Bend	768	990.2	1018.3	77	53	64.6	.1	93	9	42	13	4	0	53	71	2.90	.81	.91	5	2	T	T	9.3	SSW	*35	WSW	14	17	5	8	3.8	--

See footnotes at end of table.

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	
	Ft	Mb	Mb.	°F.	°F	°F.	°F.	°F		°F				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10
IOWA																															
Burlington	694	992.6	1018.1	79	55	67.4	0.7	95	9	39	12	5	0	52	62	2.76	-1.37	1.55	8	5	0.0	0	9.2	S	32	SW	9	18	5	7	3.4
Des Moines	948	985.8	1017.1	81	56	68.1	2.3	99	9	40	11	7	0	49	55	4.42	.78	1.40	11	8	.0	0	12.3	S	41	NW	20	18	8	4	3.4
Dubuque	1065	979.0	1017.9	77	51	63.9	1.6	97	9	37	11	2	0	49	62	3.41	-.77	1.03	10	5	.0	0	----	---	--	---	--	18	5	7	3.7
Sioux City	1094	974.3	1015.5	79	55	67.0	2.6	98	15	36	11	8	0	47	54	1.24	-2.00	.46	6	3	.0	0	14.8	S	49	S	15	14	8	8	4.2
KANSAS																															
Concordia CO	1375	966.1	------	82	60	71.1	1.6	100	8	47	11+	10	0	--	57	3.73	1.27	1.07	11	10	.0	0	8.5	---	26	S	9+	16	8	6	3.6
Dodge City	2594	927.5	1014.1	83	59	70.7	.8	97	14	45	25+	12	0	50	55	2.47	.76	1.67	6	4	T	T	15.2	SSW	43	NE	23	19	5	6	3.3
Goodland	3645	888.9	1014.1	81	51	65.9	1.3	99	15	39	25+	12	0	44	54	1.69	.32	.92	5	4	.0	0	13.1	S	*35	S	17	20	2	8	3.4
Topeka	879	984.4	1016.3	85	60	72.4	3.4	101	8	46	12	13	0	54	58	3.51	.07	1.55	6	5	.0	0	12.1	S	38	SW	9+	15	8	7	4.1
Wichita	1321	966.8	1014.8	86	63	74.1	2.4	98	8	51	25	13	0	55	57	3.79	.56	2.27	10	6	.0	0	14.2	S	40	S	2	17	8	5	3.9
KENTUCKY																															
Lexington	979	982.4	1018.0	85	60	72.6	3.7	94	9	46	12	9	0	57	65	2.43	-.40	1.20	8	5	.0	0	9.3	NE	--	---	--	17	8	5	3.4
Louisville	474	998.5	1017.6	87	60	73.4	3.2	96	9+	47	12	15	0	58	64	4.47	1.77	2.40	7	6	.0	0	7.5	SE	34	NW	29	17	8	5	3.6
LOUISIANA																															
Baton Rouge	64	1012.9	1015.9	90	71	80.5	3.0	96	20	66	16	19	0	71	78	3.57	-.75	1.60	5	4	.0	0	6.1	E	--	---	--	6	15	9	5.8
Lake Charles	12	1013.5	1015.0	89	72	80.9	2.3	93	8+	67	2+	19	0	71	80	1.57	-2.96	1.13	4	5	.0	0	5.2	SE	*23	ESE	12	7	13	10	5.9
New Orleans CO	9	1013.2	------	88	76	81.8	1.5	93	8+	70	4	12	0	--	--	9.55	3.73	4.07	11	5	.0	0	5.4	---	17	E	4	5	13	12	6.3
New Orleans	3	1013.2	1015.3	88	73	80.7	1.2	93	20+	70	16	11	0	73	82	4.53	-.53	3.59	9	6	.0	0	5.5	ENE	*20	ESE	4	5	15	10	5.9
Shreveport	252	1006.8	1015.8	90	69	79.6	1.3	95	8+	60	3	19	0	68	73	1.09	-1.13	.91	4	2	.0	0	7.2	SE	--	---	--	21	5	4	3.0
MAINE																															
Caribou	624	994.4	1017.7	62	42	52.1	-1.1	79	4	29	14	0	1	45	76	2.81	-.69	1.33	10	1	T	T	11.4	WNW	*34	WNW	21	9	7	14	6.3
Portland	61	1015.8	1019.7	70	45	57.1	-1.5	90	18	29	27	1	2	51	78	1.66	-1.42	.90	6	1	.0	0	8.9	S	28	S	14	16	5	9	4.3
MARYLAND																															
Baltimore CO	14	------	------	76	62	69.2	-1.2	87	20	50	26	0	0	--	--	1.26	-2.20	.83	7	--	--	--	----	---	--	---	--	--	--	--	---
Baltimore	146	1015.4	1020.3	77	60	68.2	.3	88	20	45	27	0	0	58	74	.56	-2.90	.29	7	0	.0	0	8.5	ENE	31	NE	19	10	7	13	5.8
Frederick	294	------	------	75	55	65.4	-3.1	87	20	42	27	0	0	--	--	1.50	-2.06	1.07	5	--	.0	0	----	---	--	---	--	--	--	--	---
MASSACHUSETTS																															
Blue Hill Obs.	629	996.6	1019.2	70	53	60.5	.7	86	18	40	22+	0	0	--	76	2.58	-1.19	1.23	8	1	.0	0	12.9	NW	35	S	28	16	8	6	4.3
Boston	15	1015.3	1019.7	73	56	64.5	.2	90	18	43	23	1	0	53	69	2.40	-.59	1.25	8	1	.0	0	11.6	NW	*36	NW	20	16	7	7	4.2
Nantucket	43	1019.8	1020.3	74	55	61.2	-.8	74	7+	43	22+	0	0	56	83	2.58	-.79	.95	8	2	.0	0	11.4	SSE	31	NW	20	11	5	14	6.1
Pittsfield	1153	977.9	1020.7	68	46	57.0	-1.3	83	18	31	27	0	2	--	--	2.82	-1.41	1.56	8	2	.0	0	----	---	--	---	--	--	--	--	---
MICHIGAN																															
Alpena CO	587	995.9	------	68	49	58.3	-.1	92	18	37	12+	1	0	--	-	.16	-3.04	.07	4	3	.0	0	10.3	---	34	SE	9+	10	8	12	5.5
Detroit	619	992.2	1018.9	77	55	65.7	1.4	94	10	43	26	4	0	51	64	1.82	-.96	.86	5	1	T	T	8.6	N	42	W	10	15	8	7	4.0
Detroit (Willow Run)	722	990.2	1018.4	77	53	65.1	.8	95	17	43	12+	5	0	50	63	1.28	-1.74	.72	4	1	T	T	10.3	NW	*27	WSW	10	15	9	6	4.1
East Lansing CO	856	------	------	77	51	63.9	2.1	93	17+	39	13	5	0	--	--	1.29	-1.76	.92	6	2	.0	0	4.1	---	14	SW	14	--	--	--	---
Escanaba CO	594	994.9	------	67	49	58.1	.7	86	4	35	12	0	0	--	--	1.62	-1.50	.66	8	4	.0	0	10.4	---	28	N	6+	9	10	11	5.9
Grand Rapids	681	993.2	1018.3	74	50	62.2	.3	91	17	39	12	3	0	50	68	.94	-2.50	.46	6	3	.0	0	7.2	E	26	SW	14	15	7	8	4.4
Marquette CO	677	989.8	------	66	50	57.6	-.2	90	16+	36	30	2	0	--	68	1.92	-1.51	1.19	13	3	T	T	8.5	---	31	S	29	6	11	13	6.0
Muskegon	627	995.3	1018.4	73	50	61.4	.1	88	17	38	12	0	0	50	65	1.40	1.94	.69	4	2	.0	0	----	---	--	---	--	15	6	9	4.2
Sault Ste. Marie	721	995.9	1018.7	64	44	54.0	-1.2	86	18	31	26	0	1	47	78	2.16	-1.33	.68	8	4	.0	0	9.8	WNW	32	W	6	6	9	15	6.6
MINNESOTA																															
Duluth	1409	974.9	1016.6	64	45	54.6	-.8	80	2+	30	30	0	3	46	76	4.83	1.61	2.73	12	5	.0	0	13.1	E	35	W	10+	9	8	13	5.8
Intern'l Falls	1179	974.3	1015.6	65	41	52.6	-.7	87	3	29	11+	0	7	44	75	5.37	2.57	3.02	13	5	T	0	11.5	---	--	---	--	10	4	16	6.3
Minneapolis	830	983.4	1016.8	74	52	63.0	.8	94	16	37	11	2	0	48	61	.99	-1.86	.35	9	4	.0	0	12.2	SSE	32	SE	15+	14	10	6	4.3
Rochester	1017	979.0	1015.5	75	47	61.4	.6	97	9	30	12	4	2	47	62	1.33	-2.72	.46	8	8	.0	0	10.7	SE	--	---	--	16	10	4	3.9
St. Cloud	1034	978.0	1016.0	70	46	58.2	-.6	92	17	31	11+	1	2	48	71	2.10	-.90	.70	8	4	T	0	6.6	NW	--	---	--	13	5	12	4.7
MISSISSIPPI																															
Jackson	315	1004.3	1016.2	91	66	78.4	1.7	97	20	59	2+	19	0	66	71	.22	-1.88	.15	4	3	.0	0	4.6	SE	21	SW	23	15	8	7	4.4
Meridian	294	1002.8	------	90	66	78.0	2.1	97	21	58	3	18	0	--	--	.70	-1.91	.64	2	0	.0	0	----	---	--	---	--	11	12	7	4.9
Vicksburg CO	234	1007.0	------	88	70	79.2	2.2	95	9	61	2+	12	0	--	--	.17	-1.60	.14	3	2	.0	0	6.4	---	18	NE	30	16	10	4	4.0
MISSOURI																															
Columbia	778	988.5	1017.0	85	58	70.5	1.8	96	9	40	12	9	0	55	65	4.09	-.53	1.98	7	4	.0	0	8.3	S	40	NW	21	18	6	6	3.4
Kansas City	741	982.1	1016.6	84	63	73.6	3.0	99	8	50	12	10	0	54	55	3.41	-.44	1.73	7	4	.0	0	11.1	S	34	NW	21	14	10	6	4.1
St. Joseph	809	------	------	83	59	71.2	1.3	98	9	43	12	10	0	--	--	2.20	-2.09	.71	9	5	.0	0	----	---	--	---	--	--	--	--	---
St. Louis CO	465	997.0	------	85	64	74.5	3.1	98	9	52	25	14	0	--	--	4.04	.66	2.59	7	6	.0	0	10.2	---	36	W	21	20	5	5	3.0
St. Louis	552	997.0	1017.4	86	61	73.6	3.2	99	9	46	12	14	0	55	57	3.19	-.35	2.06	6	4	.0	0	8.3	S	--	---	--	18	7	5	3.2
Springfield	1265	969.9	1016.8	85	60	72.1	3.0	96	8	49	12	9	0	56	62	2.39	-1.47	.93	7	5	.0	0	11.7	SSE	37	SW	29	15	9	6	3.8
MONTANA																															
Billings	3568	891.6	1014.6	73	47	59.6	-.4	95	2	33	23	6	0	32	49	.82	-.50	.44	6	1	T	0	10.8	SW	57	NW	7	10	11	9	5.2
Glasgow CO	2090	940.1	1015.3	72	42	56.8	-1.2	98	2	23	10	3	5	33	48	.42	-.80	.28	2	2	.0	0	8.6	WNW	--	---	--	14	4	12	5.2
Great Falls	3664	888.9	1015.4	68	44	56.0	-.9	92	2	32	24	1	1	32	45	.16	-1.28	.12	3	0	T	T	12.2	WSW	42	NW	5	8	11	11	5.9
Havre CO	2488	926.9	1015.7	69	40	54.7	-2.3	93	2	28	25	2	4	36	55	.18	-.97	.13	5	1	T	0	7.4	---	30	W	15	11	9	10	5.2
Helena	3893	874.4	1016.0	69	41	54.6	-.3	92	3	29	23+	3	6	34	52	.24	-.92	.15	5	3	1.2	1	7.8	W	33	W	28	5	11	14	6.3
Kalispell	2965	------	------	67	39	53.2	-1.3	90	3+	27	26	2	6	--	--	1.55	.25	.54	8	0	.0	0	----	---	--	---	--	9	11	10	5.6
Miles City	2629	931.3	1015.2	75	45	60.0	-.4	98	14	28	23	6	2	36	--	.31	-.89	.14	8	0	T	T	8.9	NW	*35	WNW	28	11	9	10	5.2
Missoula	3200	902.8	1016.8	70	40	55.2	-.6	92	3+	26	25	7	7	36	54	.62	-.45	.29	5	4	T	T	6.2	W	30	NW	16	10	8	12	5.6
NEBRASKA																															
Grand Island	1841	949.5	1015.0	80	56	67.9	1.1	99	8	40	11	8	0	48	55	2.08	-.49	1.48	6	3	.0	0	13.8	S	--	---	--	17	4	9	4.1
Lincoln CO	1184	------	------	81	59	70.0	1.9	101	8	44	11	8	0	--	--	4.81	1.89	2.65	10	4	.0	0	11.4	---	46	S	16	18	4	8	3.7
Norfolk	1544	960.4	1015.6	79	54	66.6	2.1	99	15	36	11	8	0	48	55	1.29	-1.48	.66	4	6	.0	0	----	---	--	---	--	15	8	7	4.6
North Omaha	1323	968.2	------	80	56	68.2	---	103	8	39	11	8	0	--	--	3.13	----	1.54	8	4	.0	0	----	---	--	---	--	--	--	--	---
North Platte	2779	916.4	1014.2	80	48	64.0	.2	99	8	37	21	9	0	47	59	1.51	-.24	.73	6	5	.0	0	9.9	SSE	44	NW	20	13	8	9	4.8
Omaha	978	976.6	1016.2	82	57	69.4	2.4	102	8	41	11	8	0	51	57	3.68	.52	2.07	9	3	T	0	12.2	SSE	38	S	17	21	2	7	3.6
Scottsbluff	3950	879.4	1013.9	78	47	62.3	.1	96	1	32	25	7	1	42	55	2.29	1.00	.97	6	5	.3	T	9.8	E	--	---	--	17	6	7	3.7
Valentine CO	2581	923.1	------	78	49	63.5	.9	102	15	34	23	10	0	--	--	2.13	.93	1.61	3	3	.0	0	11.3	---	43	SW	20+	15	7	8	4.1
NEVADA																															
Elko	5075	844.9	1015.2	79	36	57.3	-.5	97	4+	18	22	8	10	30	40	.39	.00	.22	4	0	.0	0	4.8	W	*23	WSW	14+	22	2	6	2.9
Ely	6257	810.0	1015.0	77	37	56.8	-1.0	92	1+	25	19+	6	11	24	45	.16	-.52	.12	3	2	T	0	9.4	---	35	SW	14	17	8	5	3.2
Las Vegas	2162	944.1	1008.0	96	65	80.8	.1	110	6	51	30	23	0	29	17	.00	-.34	.00	0	0	.0	0	11.1	SW	*32	SW	14	30	0	0	.3
Reno	4397	862.2	1014.7	81	39	59.9	-.6	99	2+	29	26+	9	7	34	46	.62	.40	.36	3	1	.0	0	5.6	WNW	48	S	14	21	5	4	2.2
Winnemucca	4299	867.6	1014.4	80	38	59.0	-.9	101	4	23	30	9	8	28	70	.18	-.16	.17	2	1	.0	0	8.1	---	47	W	14	20	6	4	3.0
NEW HAMPSHIRE																															
Concord	339	1009.3	1020.0	72	45	58.6	-.2	91	18	27	23	1	2	49	75	2.18	-1.21	.94	5	0	.0	0	4.2	SSE	25	NW	12	14	7	9	4.5
Mt. Washington	6262	810.1	-----	46	32	39.1	-2.0	61	19	18	22	0	16	--	87	3.04	-3.52	1.06	10	0	T	T	29.8	W	%94	SW	21	6	11	13	6.4
NEW JERSEY																															
Atlantic City CO	8	1014.7	------	74	63	68.6	.3	86	7	50	26	0	0	--	--	1.99	-1.52	.62	7	0	.0	0	15.3	---	38	SW	28	6	11	13	6.4

See footnotes at end of table.

able 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb	Mb.	°F	°F.	°F.	°F.	°F.		°F				°F	%	In.	In.	In.			In.	In.	M p. h.		M p. h.			0–3	4–7	8–10	0–10	%
NEW JERSEY (Cont'd.)																																
ewark	11	1019.0	1020.2	75	59	67.1	0.3	85	20	47	27	0	0	56	71	2.29	-1.60	1.23	7	0	0.0	0	9.2	NNE	*27	WNW	20	11	8	11	5.8	--
enton CO	56	1013.0	1019.9	75	58	66.4	.6	84	20	47	26+	0	0	-		1.75	-2.00	.81	6	1	.0	0	7.6	-	25	NW	20	7	11	12	6.1	59
NEW MEXICO																																
lbuquerque	5310	849.3	1011.3	87	58	72.5	2.6	94	2	50	21+	10	0	39	69	1.94	.89	1.92	2	5	T	0	7.9	SE	42	SE	6+	28	0	2	.1	91
layton	4969	847.3	1013.8	82	53	67.1	1.2	93	2+	42	25+	6	0	--	-	1.86	.01	1.54	4	3	.0	0	--			---	--	21	5	4	2.7	--
swell	3612	893.3	1012.4	89	57	73.0	1.7	97	3	50	3	18	0	51	53	2.95	.95	2.81	6	8	.0	0	6.5	---	37	NW	19	23	2	5	2.4	--
NEW YORK																																
lbany	277	1015.9	1019.6	72	48	60.0	-1.6	85	19	32	23	0	1	52	76	3.36	.21	1.71	7	0	.0	0	7.5	S	26	S	14+	14	11	5	4.3	67
inghamton	1601	960.8	1020.1	69	50	59.1	-.7	84	19	37	22	0	0	50	76	3.29	.03	1.16	8	2	.0	0	10.9	S	31	SW	10+	6	15	9	5.8	62
uffalo	693	991.2	1019.5	72	52	62.0	-.4	90	10	39	26	1	0	52	72	2.97	-.01	1.26	6	4	.0	0	11.1	S	38	SW	10	9	13	8	5.0	62
ew York CO	10	1008.5	-----	74	62	67.7	.4	82	1+	51	26	0	0	--	--	2.27	1.40	1.04	9	0	.0	0	10.1	---	45	NW	20	10	10	10	5.6	61
ew York	19	1018.4	1020.3	76	62	68.7	.3	84	18+	51	26	0	0	56	68	2.73	-.82	1.15	8	0	.0	0	11.3	NE	37	NW	20	8	11	11	5.9	--
ochester	543	999.7	1019.1	73	49	61.0	-1.0	92	10+	37	26	3	0	51	73	1.63	1.03	.54	6	4	.0	0	10.3	SSW	30	SW	10	10	13	7	5.3	68
chenectady	217	------	------	72	52	61.8	.0	84	19	38	23	0	0	--	-	2.90	.36	1.51	7	0	.0	0	--	---	--	---	-	21	8	1	2.8	-
yracuse	424	998.5	1020.4	73	50	61.7	-1.7	91	18	36	22	1	0	50	70	1.87	-1.04	1.00	7	3	.0	0	10.8	S	40	S	27	11	14	5	4.8	65
NORTH CAROLINA																																
sheville CO	2203	------	---	79	59	68.9	1.0	90	22	48	14	1	0	-	-	.98	-1.74	.68	7	0	0	0	9.4	-	22	E	13+	7	11	12	5.9	65
harlotte	727	989.8	1018.7	85	64	74.2	1.6	96	22	54	14+	7	0	63	74	2.59	-1.06	.36	3	1	.0	0	8.7	NNE	27	N	19	7	7	16	6.7	52
reensboro	891	987.9	1019.6	79	62	70.5	.2	90	20	48	27	1	0	62	80	4.11	.45	2.31	9	1	.0	0	8.6	ENE	*27	N	19	6	6	18	7.0	54
atteras CO	4	1016.5	1017.1	80	71	75.4	.1	85	1+	68	14+	0	0	70	83	16.43	10.34	4.98	13	2	.0	0	13.4	NE	68	SE	19	6	6	18	7.1	--
aleigh	433	1002.8	1018.7	80	64	71.9	-.7	90	7	50	27	1	0	65	84	4.33	-.16	1.22	8	2	0	0	8.2	NE	*30	NNW	19	4	11	15	7.1	45
ilmington	30	1016.0	-- --	83	68	75.2	-.2	90	1	60	27	1	0	--	--	15.51	9.56	7.18	17	4	.0	0	10.4	---	66	NW	19	5	7	18	7.3	38
inston-Salem	967	984.4	1019.5	79	62	70.7	.2	91	20	49	27	2	0	62	77	3.85	.36	1.97	7	1	.0	0	8.9	NE	*31	NNE	19	6	6	18	7.0	--
NORTH DAKOTA																																
ismarck	1650	955.0	1015.2	73	43	57.9	-.6	98	3	27	11	5	2	40	57	2.26	.83	1.39	6	3	.0	0	11.5	E	43	SE	15	13	5	12	4.9	76
evils Lake CO	1471	961.4	--- --	68	42	55.1	-1.2	95	3	26	11	3	5	--	--	1.61	-.46	.85	7	1	.0	0	8.4	---	27	NW	29	10	9	11	5.3	67
argo	895	980.7	1015.3	72	46	58.7	-.2	91	17	29	11	1	2	44	63	1.27	-.45	.40	8	4	.0	0	15.1	S	47	SE	15+	11	7	12	5.4	56
illiston CO	1877	947.5	1015.0	69	43	56.4	.8	91	2	28	30	1	4	37	50	.05	-1.16	.03	3	2	.0	0	7.4	---	26	W	22	11	5	14	5.6	64
OHIO																																
kron	1210	983.1	1019.7	78	53	65.3	.7	91	18	43	8+	2	0	53	69	1.82	-1.81	.69	6	3	.0	0	9.3	SE	--	--		10	13	7	4.6	--
incinnati Obs.	761	------	------	83	59	70.7	1.8	95	9	43	12	9	0	--	--	5.86	2.98	2.50	8	6	T	0	4.7	---	29	NW	21	--	--	--	---	71
incinnati	869	986.4	1018.2	83	58	70.5	3.2	94	9	44	12	7	0	55	63	3.97	1.00	1.33	8	7	T	T	8.3	ENE	*38	SSW	10	13	7	10	4.4	--
leveland	787	991.2	1018.8	78	56	67.2	1.7	95	17	45	13	5	0	54	66	1.61	-1.52	1.05	6	2	.0	0	10.4	SSE	29	NW	10	13	9	8	4.4	74
olumbus CO	724	------	------	80	59	69.6	1.8	94	18	46	12	5	0	-		2.99	.41	1.06	6	4	.0	--	----	---	--	---	--	--	--	--	---	--
olumbus	815	989.0	1019.0	82	57	69.2	2.7	95	18	44	12	9	0	55	65	2.69	.22	1.09	7	5	.0	0	6.0	NNW	26	S	29	13	10	7	4.3	73
ayton	1002	982.5	1018.5	80	58	69.1	2.2	94	9	43	12	4	0	54	63	5.43	2.63	2.45	7	6	.0	0	9.7	SSW	34	NW	29	14	9	7	4.2	82
andusky CO	603	996.7	------	78	58	67.8	1.3	94	19	49	13	5	0	-	-	.99	-2.27	.69	7	1	.0	0	6.8	---	28	NW	10	18	8	4	3.5	78
oledo	676	993.3	1018.6	79	51	64.9	-	96	17	39	12	6	0	53	69	1.69	---	.87	5	1	.0	0	8.3	SW	35	SW	10	16	8	6	4.1	74
oungstown	1178	977.2	1019.7	76	51	63.6	1.1	90	17+	39	26	2	0	54	75	1.52	2.02	.65	5	2	.0	0	7.5	SSW	*40	W	10	13	9	8	4.7	-
OKLAHOMA																																
klahoma City	1280	972.6	1015.2	86	64	75.0	1.0	95	7+	55	26	11	0	61	68	4.73	1.30	1.52	7	5	.0	0	11.7	SSE	32	SE	15	15	8	7	4.2	--
ulsa	672	991.2	1015.4	87	66	76.1	2.3	97	8	55	12	13	0	62	66	1.51	2.74	.40	9	5	.0	0	10.1	S	28	NE	10+	16	6	8	4.1	76
OREGON																																
storia	8	1016.6	1017.7	66	47	56.7	3.6	92	4	38	30	1	0	51	83	3.57	.53	1.94	10	0	T	0	5.0	SE	--	---	-	11	5	14	5.8	--
Burns CO	4140	873.4	1015.2	75	42	58.4	.1	99	5	28	26	6	6	31	41	1.44	1.01	1.03	5	2	T	T	- -	-		--		20	5	5	2.9	--
Eugene	361	1003.4	1017.0	74	45	59.6	1.3	97	4+	34	21	3	0	--	--	1.38	-.22	.48	7	1	.0	0	7.3	--	--	---	--	15	6	9	4.4	--
Meacham	4050	------	------	67	44	55.3	-.4	95	5	31	22+	2	4	--	--	1.52	.06	.62	7	2	T	T	- --	---	--	---	--	17	4	9	4.2	--
Medford	1312	968.2	1015.5	80	46	62.9	-1.5	107	4	36	25	6	0	44	57	.83	.18	.50	4	1	.0	0	3.6	S	*17	NW	14+	17	5	8	3.9	--
Pendleton	1492	962.1	1015.3	76	50	63.0	1.6	102	6	38	22	7	0	39	45	1.36	.65	.95	7	1	.0	0	9.0	SE	*36	NE	6+	17	5	8	3.8	--
Portland	21	1011.2	1016.8	72	49	60.4	-1.9	98	4	38	25	2	0	51	73	2.86	1.02	1.31	8	1	.0	0	5.7	WNW	31	S	14	12	8	10	5.2	56
Roseburg	505	997.6	1015.9	76	45	60.7	- -	102	4	34	21	6	0	--	--	1.00	-.11	.49	7	1	.0	0	5.0	---	21	N	2	17	5	8	3.9	70
Salem	195	1009.1	1016.8	75	46	60.4	-2.0	100	4	36	21	3	0	49	70	2.30	.81	.92	7	0	.0	0	7.0	NW		-		15	5	10	4.7	--
Sexton Summit CO	3836	------	----	68	48	58.2	-1.6	97	4	35	21	2	0	--	--	1.32	.15	.67	6	0	.0	0			--	---	--	21	4	5	2.7	--
PENNSYLVANIA																																
Allentown	376	1006.6	1020.8	74	54	63.8	.9	85	20	41	26	0	0	55	77	2.58	-.89	1.40	9	0	0	0	7.3	E	-	---	--	8	9	13	5.9	
Harrisburg	335	1006.6	1020.3	75	57	65.8	.3	85	15	44	26	0	0	55	72	3.36	.73	1.23	9	1	.0	0	5.2	SE	22	NW	20	10	8	12	5.8	66
Philadelphia CO	26	------	------	76	62	69.1	-.2	85	7+	52	26	0	0	-		1.41	-2.02	.50	10	--	---	--	-	--	--	---	--	--	--	--	---	--
Philadelphia	10	1015.4	1019.8	77	59	68.0	.3	85	7+	48	27	0	0	57	72	1.71	-1.75	.67	8	1	.0	0	8.5	ENE	39	SW	28	6	11	13	6.2	55
Pittsburgh CO	749	------	---- -	79	58	68.5	.6	92	17	45	13	2	0	-	-	1.84	-.93	1.23	4	-	--	-	----	---		-					-	75
Pittsburgh	1151	988.8	1019.5	77	55	66.1	1.2	91	17	42	13	1	0	54	70	1.75	1.22	1.15	4	1	.0	0	8.1	WSW	*21	SW	10	15	8	7	4.4	77
Reading CO	266	1007.9	1019.6	76	58	66.7	.4	85	6+	47	13+	0	0	--	--	2.07	-1.21	1.03	6	0	.0	0	8.4		27	NW	20	5	13	12	6.1	58
Scranton	940	986.6	1021.0	72	52	61.9	-1.3	86	18	40	13+	0	0	52	73	2.83	-.39	1.10	6	2	.0	0	6.4	SW	33	SE	29	9	14	7	5.3	61
Shippingport CO	736	------	------	77	53	65.3	---	91	17	42	13	2	0	--	--	2.17	-	1.22	5	0	.0	0	2.0	--	%20	NW	11	--	--	--	5.2	--
Williamsport	527	1001.3	------	75	53	63.8	-.8	85	5+	41	13	0	0		-	2.63	-.70	1.31	6	0	.0	0	---	---	--	---		8	14	8	5.7	-
RHODE ISLAND																																
Block Island	110	1015.2	1019.4	70	58	63.5	0	77	7	48	27	0	0	--	-	3.07	.09	1.04	9	2	0	0		---	--	--	--	9	9	12	5.8	-
Providence	55	1014.1	1020.0	72	53	62.2	.5	85	18	40	23+	0	0	54	77	3.27	.08	1.59	7	2	.0	0	7.8	NW	*29	S	28	14	8	8	4.8	65
SOUTH CAROLINA																																
Charleston CO	9	------	----	82	72	76.9	.8	89	1	66	13	0	0	--	--	13.63	8.32	4.48	13	11	0	0	9.4	--	38	E	10	1	7	22	8.7	40
Charleston	41	1015.3	1017.2	82	68	75.0	1.3	89	21	62	21	0	0	70	89	8.93	3.46	1.98	15	9	.0	0	8.5	NNE				0	11	19	8.2	
Columbia	217	1009.2	1017.5	86	66	76.1	.2	96	21	59	27	9	0	67	80	1.38	3.04	1.04	10	2	.0	0	6.8	NE	*21	NNE	18	7	3	20	7.2	56
Florence	146	1012.0	- -	84	67	75.7	.4	94	22	59	27	4	0	-	--	6.63	2.35	2.20	14	3	0	0	--	---	-	---	-	5	8	17	7.1	-
Greenville	1018	981.3	1018.1	82	65	73.4	.3	93	22	55	14	4	0	60	69	2.42	1.17	.98	8	2	0	0	10.8	NE	27	E	8	10	3	17	6.5	61
Spartanburg	801	------	----	83	65	73.6	.4	92	7+	55	14	4	0	-	--	1.67	2.01	1.63	5	2	.0	0	7.9	--	*23	NE	18				---	
SOUTH DAKOTA																																
Huron	1282	967.8	1014.4	77	48	62.6	-.2	101	15	29	11	5	1	45	56	.69	-1.04	.55	4	6	.0	0	12.2	SSE	49	SE	20	14	9	7	4.4	72
Rapid City	3165	901.8	1014.9	76	49	62.2	1.7	98	5	33	25	7	0	39	49	3.08	1.90	1.97	6	2	T	0	10.2	NNW	43	SW	14	15	6	7	3.9	68
Sioux Falls	1420	964.4	1015.6	77	50	63.4	1.0	99	15	34	11	5	0	43	52	72	2.21	.32	4	5	.0	0	11.6	S	*32	NNE	9	14	7	9	4.3	--
TENNESSEE																																
Bristol	1519	965.0	------	84	60	72.0	3.5	94	23	52	14	8	0	-		2.25	-.54	1.20	4	1	.0	0	-	---		---		8	14	8	5.4	--
Chattanooga	670	990.5	1017.7	88	63	75.3	2.8	98	21	54	14	13	0	62	71	.89	1.80	.66	4	1	.0	0	4.8	S	25	S	23	12	5	13	5.1	71
Knoxville	950	983.3	1018.2	87	64	75.5	3.4	96	22	58	17	12	0	60	65	2.48	-.05	1.01	5	0	.0	0	5.9	NE	24	N	19	13	5	12	5.1	63
Memphis CO	271	---- -	------	87	69	77.9	3.1	94	8+	56	13	12	0		-	1.67	-.83	1.24	3	-	.0	0	-	---	--	--	--	-	-	-	---	--
Memphis	263	1002.4	1016.9	89	65	76.7	2.4	97	8	53	13	16	0	62	65	1.31	1.24	.76	4	2	.0	0	7.4	NE	30	N	27	20	4	6	3.3	76
Nashville	577	997.9	1017.7	89	64	76.4	3.2	98	9	56	13	16	0	-	-	4.26	1.52	2.10	6	5	.0	0	5.1	SSE	27	W	29	16	6	8	3.8	76
Oak Ridge CO	905	985.3	------	86	61	73.3	2.0	95	21+	54	17	13	0	--	--	4.60	2.05	2.36	5	3	.0	0	3.6	NE	16	NE	19	13	6	11	4.8	
TEXAS																																
Abilene	1759	953.6	1013.3	90	68	78.8	3.3	95	10	58	1	20	0	61	59	3.85	1.25	2.83	5	4	.0	0	10.8	SSE	36	N	10	20	5	5	3.5	88
Amarillo	3590	889.9	1013.4	83	58	70.4	1.1	92	2	45	26	9	0	52	59	3.13	.85	1.61	6	2	T	T	12.2	S	49	W	20	19	5	6	3.4	77
Austin	615	992.9	1014.2	93	71	82.2	2.9	97	8+	64	3	27	0	68	68	1.33	2.73	.99	5	3	.0	0	8.2	SSE	26	SE	14	6	17	7	5.6	59

See footnotes at end of table.

CLIMATOLOGICAL DATA

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F. or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	
	Ft.	Mb	Mb.	°F.	°F.	°F.	°F.	°F.		°F		#		°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10
TEXAS (Cont'd.)																															
Brownsville	16	1010.2	1012.4	88	75	81.4	0.0	91	14	70	6	14	0	75	84	8.30	2.03	3.61	15	5	0.0	0	9.5	E	32	NE	5	1	18	11	7.0
Corpus Christi	40	1012.2	1013.2	88	75	81.6	1.4	93	4	68	6	13	0	75	83	11.70	7.00	7.68	11	3	.0	0	9.4	E	31	NE	6	2	16	12	6.8
Dallas	487	997.3	1015.4	91	70	80.8	1.9	97	30	63	1+	24	0	67	67	2.47	-.24	1.30	6	4	.0	0	10.0	SE	32	SE	21	18	6	6	3.3
Del Rio	1091	979.3	1013.0	92	72	81.9	2.1	95	5	66	7+	28	0	66	62	1.21	-1.30	.91	7	0	.0	0	10.0	---	26	NE	11	5	18	7	6.0
El Paso	3920	885.9	1011.1	91	63	76.8	1.9	98	10	56	3	18	0	47	39	.16	-.97	.06	3	3	.0	0	9.2	S	35	SE	23	24	3	3	1.7
Fort Worth	544	995.3	1015.4	91	70	80.8	2.6	96	8+	62	2	25	0	64	62	3.68	.99	1.27	7	6	.0	0	9.8	SE	*32	NE	10	21	4	5	3.0
Galveston CO	7	--	-----	85	78	81.5	1.2	88	22+	71	5	0	0	-	--	3.49	-1.95	1.85	9	--	.0	0	10.9	---	26	E	12	--	--	--	---
Galveston	5	1012.5	1014.8	86	78	81.6	1.2	89	21+	70	5	0	0	74	79	3.46	-2.36	2.04	13	2	.0	0	12.9	ESE	--	---	--	5	13	12	6.3
Houston CO	41	1009.5	-----	89	74	81.4	1.4	93	30	68	3	12	0	--	--	1.67	-1.98	.72	10	4	.0	0	7.9	---	22	S	11	3	12	15	6.7
Houston	50	1011.9	1014.3	88	73	80.3	1.6	92	30	66	3	10	0	72	81	5.34	.99	1.71	12	9	.0	0	9.2	ESE	--	---	--	3	13	14	6.6
Laredo	500	997.6	1012.6	93	74	83.4	-.1	97	4+	69	7	25	0	70	72	1.20	-1.96	.69	7	4	.0	0	10.2	SE	*35	S	30	1	17	12	7.1
Lubbock	3243	903.8	1013.4	85	59	72.0	.8	93	3	47	1	8	0	59	67	2.76	-.09	1.42	6	4	.0	0	11.8	S	*27	S	17	19	6	5	3.2
Midland	2854	916.0	1012.9	89	64	76.3	1.0	94	30	56	1	15	0	59	58	.35	-1.79	.23	3	3	.0	0	8.6	SSE	*29	NNE	10	19	5	6	3.1
Port Arthur	16	1013.9	1015.2	89	73	80.7	2.8	93	8	65	3	16	0	73	82	2.91	-1.97	1.53	8	6	.0	0	7.8	NE	42	NE	11	4	14	12	6.2
San Angelo	1903	947.9	1013.7	89	67	77.9	1.4	94	10	56	1	15	0	60	58	1.43	-.87	.78	5	2	.0	0	9.3	S	*44	NNE	10	16	10	4	3.7
San Antonio	792	989.5	1013.8	92	72	81.9	2.5	95	22+	65	3+	25	0	66	66	.79	-2.58	.20	9	2	.0	0	8.4	SE	30	E	12	8	18	4	5.5
Victoria	110	1009.1	1013.7	88	73	80.7	-.1	92	4+	66	3	14	0	73	81	3.78	.09	1.28	13	5	.0	0	7.4	---	%36	N	1	2	17	11	6.8
Waco	500	996.3	1014.5	91	71	80.9	2.0	96	9	65	4	23	0	68	69	2.42	-.55	1.15	5	5	.0	0	7.7	SSE	--	---	--	15	9	6	3.9
Wichita Falls	1027	978.0	1014.1	90	66	78.1	1.7	98	8	58	1+	18	0	64	63	6.58	3.86	4.49	9	6	.0	0	11.0	SE	*35	SE	10	17	8	5	3.8
UTAH																															
Milford	5028	844.2	1013.4	83	43	63.1	.5	97	5+	30	19+	10	5	--	--	.32	-.08	.22	3	2	.0	0	----	---	—	---	--	22	6	2	1.9
Salt Lake City	4220	866.9	1012.8	80	50	65.0	.8	97	6	36	30	12	0	39	43	.97	.23	.53	4	1	.0	0	7.9	SSE	33	S	17	20	6	4	3.0
VERMONT																															
Burlington	331	1004.5	1019.2	68	48	57.9	-2.0	84	19	32	23	0	1	49	72	3.15	.01	1.62	9	1	.0	0	8.8	S	48	S	10	9	14	7	5.2
VIRGINIA																															
Lynchburg	947	986.6	------	77	60	68.4	-.4	90	20	48	27	1	0	--	--	2.15	-.95	1.87	6	1	.0	0	7.2	---	33	N	19	8	7	15	6.2
Norfolk	26	1017.6	1018.8	79	66	72.2	.2	87	7	59	27	0	0	65	81	9.26	5.40	3.72	11	2	.0	0	10.5	ENE	47	NE	19	6	8	16	6.8
Richmond	162	1013.6	1019.6	79	62	70.6	.3	90	16	49	14	1	0	64	83	5.79	2.14	3.82	10	1	.0	0	7.2	NNE	30	NE	19+	5	11	14	6.6
Roanoke	1174	975.3	1020.1	78	60	68.8	-.3	90	16+	47	27	2	0	60	77	1.64	-1.75	1.06	8	1	.0	0	5.4	SE	--	---	--	10	3	17	6.3
WASHINGTON																															
Olympia	190	1009.8	1017.4	69	44	56.3	-1.8	89	5	32	21	0	1	47	74	1.84	.04	1.08	7	0	.0	0	5.1	SSW	*24	S	13	9	6	15	6.2
Seattle CO	14	------	------	67	52	59.9	-1.1	86	5	45	21	0	0	--	--	1.24	-.32	.52	10	0	.0	0	7.1	---	26	SW	13	10	4	16	6.1
Seattle	14	1016.6	1017.5	--	--	----	---	--	--	--	--	-	--	50	74	----	----	----	--	--	---	--	6.0	SSE	--	----	--	--	--	--	---
Seattle-Tacoma	379	1003.7	1017.9	66	48	57.0	-1.7	86	5	37	22	0	0	49	78	1.52	-.13	.51	9	0	.0	0	9.2	SW	*25	N	4	10	5	15	5.9
Spokane	2357	946.5	1015.2	72	47	59.4	.2	94	5	36	22+	4	0	38	51	1.13	.20	.62	7	0	.0	0	7.2	SSW	25	SW	20+	17	5	8	4.0
Stampede Pass CO	3958	880.8	1018.9	57	42	49.6	-1.6	82	5	31	28	0	2	-	--	3.54	-.50	.91	12	0	T	T	----	---	--	---	--	12	5	13	5.4
Tatoosh CO	101	1014.2	1017.6	58	50	54.0	-.5	73	5	45	21	0	0	50	88	2.12	-1.52	.78	11	0	.0	0	9.7	S	40	S	13	7	8	15	6.8
Walla Walla CO	949	979.0	1014.6	77	53	64.8	-.5	103	6	40	22+	8	0	--	--	1.32	.46	.90	8	1	.0	0	5.1	---	22	E	6	17	6	7	3.6
Yakima	1061	976.3	1015.2	77	44	60.3	-.8	97	5+	31	22	6	0	42	56	.48	.09	.32	4	1	.0	0	5.5	WNW	--	---	--	15	8	7	4.0
WEST VIRGINIA																															
Charleston	950	983.4	1018.6	84	58	70.9	2.3	94	9	49	13+	8	0	57	67	1.53	-1.41	.95	7	1	.0	0	5.0	S	*20	SE	10	10	9	11	5.4
Elkins	1970	------	------	78	50	63.7	.7	86	16+	38	21	0	0	54	--	1.03	-2.25	.82	7	1	.0	0	4.3	SE	*19	NNE	19	7	13	10	6.0
Huntington CO	565	------	------	86	60	72.6	2.1	95	9+	50	13	11	0	-	--	3.00	.12	1.29	8	--	.0	0	----	---	--	---	--	--	--	--	---
Parkersburg CO	615	------	------	82	59	70.4	2.0	94	17	49	13+	6	0	--	--	1.64	-1.35	1.12	6	2	.0	0	4.9	---	16	SE	30	17	8	5	3.9
WISCONSIN																															
Green Bay	689	994.9	1019.2	73	49	60.0	-.2	95	9	32	12	4	1	48	67	.76	-2.11	.38	5	2	.0	0	10.1	SW	37	SW	9	13	6	11	4.8
La Crosse	652	992.2	1016.8	76	52	64.1	1.8	100	9	35	12	5	0	49	59	1.23	-2.59	.41	10	10	.0	0	9.7	SE	*36	SSW	9	12	13	5	4.2
Madison	857	982.4	1017.8	77	49	63.0	.9	97	9	31	12	4	1	48	62	.80	-3.19	.24	8	5	T	T	8.8	S	47	SW	9	15	8	7	4.3
Milwaukee	675	993.2	1018.0	74	54	63.9	1.3	96	9	40	30	4	0	51	66	2.36	-.97	.77	6	4	.0	0	14.0	SSW	38	SW	14	13	8	9	4.4
WYOMING																															
Casper	5322	837.8	1012.3	75	46	60.6	2.5	91	1+	32	29+	4	2	28	38	.65	-.57	.31	5	4	T	T	13.6	SW	*46	WSW	28	15	8	7	4.1
Cheyenne	6131	813.4	1014.2	72	45	58.7	1.3	90	1	30	25	1	2	34	47	1.40	.20	.60	6	6	T	T	9.6	W	54	W	20	17	6	7	3.7
Lander	5563	836.1	1014.3	74	46	59.6	2.1	93	1	31	24+	2	5	33	42	1.30	.07	.92	5	3	5.4	3	7.2	---	41	W	8	17	9	4	3.4
Sheridan	3942	884.9	1015.4	74	44	58.6	.7	96	5	26	23	5	3	36	46	.71	-.74	.52	5	3	T	T	7.9	WNW	59	NW	28	13	9	8	4.7
PACIFIC AREA																															
Canton Island	9	1009.8	1010.3	88	78	82.6	-1.8	89	6+	73	27	0	0	72	75	.85	.16	.54	8	0	.0	0	----	---	--	---	--	19	5	6	3.7
Hilo	31	1014.6	1016.1	81	65	73.1	-2.2	84	20	62	8+	0	0	65	78	3.99	-6.43	.98	22	0	.0	0	8.2	WSW	*22	N	2+	2	12	16	7.1
Honolulu	7	1015.9	1016.5	83	71	77.0	-2.2	86	10	68	7+	0	0	64	68	.22	-.92	.08	7	0	.0	0	11.5	ENE	30	NE	15	7	21	2	5.1
Koror CO	94	1006.1	1009.8	88	75	81.6	.5	90	8+	73	13+	4	0	76	81	10.87	-2.44	1.64	25	2	.0	0	----	---	—	---	—	0	3	27	8.9
Lihue	115	1011.5	1016.6	83	70	76.5	-1.3	85	24	66	6+	0	0	67	74	2.47	.27	.92	24	0	.0	0	11.7	ENE	29	NE	27	8	17	5	5.1
Majuro	10	1009.2	1009.5	85	76	80.5	---	87	2+	73	8+	0	0	75	83	8.61	----	2.42	25	3	.0	0	----	---	--	---	--	0	9	21	8.6
Ponape CO	112	1005.1	1010.8	87	72	79.6	-.5	91	8	69	10+	6	0	75	87	19.35	3.39	2.55	28	5	.0	0	----	---	--	---	--	0	5	25	9.1
Truk (Moen Island)	8	1009.8	1010.3	85	75	79.9	-.8	88	2+	72	17+	0	0	76	87	21.17	8.56	3.95	27	3	.0	0	----	---	--	---	--	0	2	28	9.2
Wake Island	11	1013.5	1013.9	86	77	81.8	-.4	89	8	73	17+	0	0	73	75	4.44	-1.04	1.06	24	1	.0	0	16.6	E	--	---	--	5	13	12	6.8
Yap CO	53	1007.8	1009.8	89	75	82.0	.2	93	8	73	3+	15	0	76	86	14.72	.56	2.93	24	1	.0	0	----	—	—	---	--	0	1	29	9.6
WEST INDIES																															
San Juan, P.R. CO	47	------	------	87	76	81.5	1.0	91	12+	73	29+	2	0	--	--	2.67	-3.33	.54	21	11	.0	0	----	---	--	---	--	--	--	--	---
San Juan, P.R.	9	1010.4	1012.6	88	73	80.5	---	90	16+	69	29	2	0	73	82	7.14	----	1.79	23	10	.0	0	7.7	ENE	25	NE	10	4	20	6	6.6
ALASKA																															
Anchorage	92	1007.5	1012.6	54	38	46.3	-1.7	64	2+	27	18+	0	6	38	70	1.27	-1.44	.73	11	0	.0	0	5.7	NNE	*21	SSW	2	8	3	19	7.1
Annette	110	1012.9	1017.0	58	46	52.2	-.9	70	8	39	19+	1	0	47	83	11.99	2.39	3.32	17	0	.0	0	11.4	SE	*43	SSE	1	6	5	19	7.3
Barrow	22	1010.8	1011.4	31	23	27.3	-3.3	41	30	16	25	0	30	26	93	.70	.15	.14	10	0	3.5	3	9.9	ENE	25	SE	30	0	4	26	9.2
Bethel	10	1007.5	1009.0	51	39	45.0	-.3	62	3	30	17	0	3	41	88	2.54	-.47	.64	22	0	.0	0	9.9	SSE	*35	S	29	2	2	26	8.8
Cold Bay	93	1008.1	1011.7	50	42	46.2	---	57	7	34	24	0	0	42	87	3.55	----	1.86	19	0	T	0	14.5	SE	*32	WSW	26+	0	5	25	9.1
Cordova	40	------	------	56	37	46.3	-1.7	66	13	27	19	0	10	--	--	4.32	-11.15	1.13	13	0	.0	0	----	---	--	---	--	2	6	22	8.3
Fairbanks	436	994.6	1011.7	53	35	43.6	-1.0	63	10	20	27	0	12	38	81	1.45	.24	.86	11	0	T	0	3.9	N	*17	WSW	24	2	5	23	8.5
Juneau	15	1014.6	1015.4	54	40	47.0	-2.0	65	10	28	20+	0	4	42	84	5.39	-1.53	1.32	17	0	.0	0	7.1	ESE	31	SE	1+	3	4	23	8.2
Kotzebue	10	1008.1	1008.7	45	37	41.0	.1	51	8+	23	25	0	7	38	89	2.76	1.82	.48	19	0	.1	T	14.2	ESE	*33	SE	30	3	1	26	8.8
McGrath	334	998.3	1011.2	50	37	43.3	-.7	62	4	22	17+	0	8	39	85	3.32	.91	.84	19	0	.0	0	4.2	S	*24	SSE	30	1	5	24	8.8
Nome	13	1006.8	1007.6	46	38	41.7	-.3	52	2	27	24	0	7	38	85	5.07	2.14	1.18	21	0	T	0	13.0	SSE	41	S	29	4	2	24	8.5
Northway	1713	-----	------	52	30	41.2	-1.3	67	9	11	27	0	18	--	--	.39	-.79	.28	5	0	T	0	----	---	--	---	--	3	8	19	7.7
St. Paul Island	22	1008.5	1009.5	47	40	43.2	-2.1	49	7+	31	24	0	3	41	91	2.39	-1.10	.73	21	0	.0	0	----	---	--	---	—	0	6	24	9.0
Yakutat	28	1012.9	1014.0	54	40	46.8	-1.6	61	22	27	21	0	7	44	90	10.11	-6.21	2.30	19	0	.0	0	7.9	ESE	*47	ESE	17	1	7	22	8.4

Data from airport unless otherwise specified. CO indicates data from city office.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.
+ And also on a later date or dates.
% Peak gust.
a Maximum hourly average.
Maximum 70°F or above for Alaskan stations.

HEATING DEGREE DAYS

ble 3

(Base 65°F)

SEPTEMBER 1955

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
rmingham	0	0	13
bile	0	0	0
ntgomery	0	0	0
ARIZONA			
agstaff	219	346	370
ioenix (CO)	0	0	0
ioenix	0	0	0
escott	40	40	34
icson	0	0	0
nslow	12	12	20
ima	0	0	0
ARKANSAS			
. Smith	0	0	9
ttle Rock	0	0	10
xarkana	0	0	0
CALIFORNIA			
akersfield	0	0	0
ishop	66	66	55
lue Canyon	163	274	182
urbank	4	4	11
ureka (CO)	298	941	779
resno	1	1	0
os Angeles (CO)	6	6	17
os Angeles	12	15	109
t. Shasta (CO)	192	306	248
akland	116	371	237
ed Bluff	3	3	0
acramento (CO)	7	9	17
acramento	14	15	22
andberg (CO)	62	88	26
an Diego	1	1	42
an Francisco (CO)	181	683	476
an Francisco	130	463	381
an Jose	34	84	44
anta Maria	149	474	303
COLORADO			
lamosa	274	350	494
olorado Springs	134	135	153
enver	126	128	136
rand Junction	33	33	36
ueblo	80	80	74
CONNECTICUT			
ridgeport	61	61	66
artford	129	137	115
ew Haven	93	98	111
DELAWARE			
ilmington	45	45	47
DIST. OF COLUMBIA			
ashington (CO)	13	13	32
ashington	15	15	37
FLORIDA			
palachicola (CO)	0	0	0
aytona Beach	0	0	0
ort Myers	0	0	0
acksonville (CO)	0	0	0
acksonville	0	0	0
ey West (CO)	0	0	0
iami (CO)	0	0	0
iami	0	0	0
iami Beach	0	0	0
rlando	0	0	0
ensacola (CO)	0	0	0
allahassee	0	0	0
ampa	0	0	0
est Palm Beach	0	0	0
GEORGIA			
Athens	0	0	5
Atlanta	0	0	8
Augusta	0	0	0
Columbus	0	0	0
Macon	1	1	0
Rome	0	0	8
Savannah	0	0	0
IDAHO			
Boise	192	236	135
Lewiston	184	226	133
Pocatello	220	260	183
ILLINOIS			
Cairo (CO)	0	0	28
Chicago (CO)	34	34	
Chicago	43	43	90
Chicago University	47	47	
Moline	71	71	104
Peoria	41	41	97
Springfield	35	35	89
INDIANA			
Evansville	8	8	59
Ft. Wayne	64	66	124
Indianapolis	29	29	79
South Bend	92	94	119
IOWA			
Burlington	56	56	83
Des Moines	70	71	116
Dubuque	102	108	185
Keokuk (CO)	31	31	
IOWA (Cont'd.)			
Sioux City	97	97	153
KANSAS			
Concordia (CO)	56	56	55
Dodge City	63	63	40
Goodland	130	130	95
Topeka (CO)	28	28	42
Topeka	26	26	67
Wichita	17	17	32
KENTUCKY			
Lexington	4	4	56
Louisville	4	4	51
Pikeville (CO)	0	0	
LOUISIANA			
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans (CO)	0	0	0
New Orleans	0	0	0
Shreveport	0	0	0
MAINE			
Caribou	379	514	572
Greenville (CO)	316	412	
Portland	246	293	270
MARYLAND			
Baltimore (CO)	24	24	29
Baltimore	34	34	50
Frederick	74	74	47
MASSACHUSETTS			
Blue Hill Obs.	156	174	
Boston	85	90	84
Nantucket	126	150	167
Pittsfield	242	280	301
MICHIGAN			
Alpena (CO)	227	250	350
Detroit	80	82	104
Detroit (Willow Run)	93	94	106
East Lansing (CO)	112	114	
Escanaba (CO)	220	252	404
Grand Rapids (CO)	108	112	125
Grand Rapids	142	146	187
Marquette (CO)	260	311	392
Muskegon	153	155	226
S. Ste. Marie	334	380	533
MINNESOTA			
Duluth (CO)	281	330	434
Duluth	313	366	445
Internat. Falls	383	450	544
Minneapolis	136	138	182
Rochester	176	185	244
St. Cloud	236	243	310
MISSISSIPPI			
Jackson	0	0	0
Meridian	0	0	0
Vicksburg (CO)	0	0	0
MISSOURI			
Columbia	31	31	68
Kansas City	18	18	44
St. Joseph	34	34	54
St. Louis (CO)	3	3	38
St. Louis	9	9	45
Springfield	4	4	69
MONTANA			
Billings	240	262	222
Glasgow (CO)	282	308	288
Great Falls	300	396	347
Havre (CO)	327	389	328
Helena	330	430	422
Kalispell	363	561	456
Miles City	214	218	204
Missoula	324	460	371
NEBRASKA			
Grand Island	98	99	90
Lincoln (CO)	63	63	86
Norfolk	113	113	139
North Platte	152	152	138
Omaha	65	65	93
Scottsbluff	160	162	137
Valentine (CO)	156	162	166
NEVADA			
Elko	265	316	263
Ely	263	331	294
Las Vegas	0	0	0
Reno	201	259	253
Tonopah	125	126	101
Winnemucca	244	297	197
NEW HAMPSHIRE			
Concord	210	233	260
Mt. Washington Obs.	772	1539	
NEW JERSEY			
Atlantic City (CO)	25	25	29
Newark	45	45	47
Trenton (CO)	52	52	55
NEW MEXICO			
Albuquerque	1	1	10
Clayton	63	63	68
Roswell	0	0	8
NEW YORK			
Albany	174	186	163
Binghamton	197	211	271
Buffalo	137	140	168
New York (CO)	30	30	39
New York	21	21	28
Rochester	169	178	176
Schenectady	133	137	
Syracuse	141	147	146
NORTH CAROLINA			
Asheville (CO)	11	11	50
Asheville	20	20	
Charlotte	1	1	7
Greensboro	12	12	29
Hatteras (CO)	0	0	0
Raleigh	5	5	16
Wilmington	0	0	0
Winston-Salem	13	13	28
NORTH DAKOTA			
Bismarck	252	268	293
Devils Lake (CO)	325	359	384
Fargo	231	244	281
Grand Forks	300	320	
Pembina	286	307	
Williston (CO)	279	316	332
OHIO			
Akron	82	85	100
Cincinnati (CO)	7	7	42
Cincinnati	17	17	83
Cleveland	52	53	85
Columbus	29	29	77
Dayton	29	29	79
Sandusky (CO)	36	36	66
Toledo	92	95	114
Youngstown	110	117	102
OKLAHOMA			
Oklahoma City	5	5	14
Tulsa	0	0	18
OREGON			
Astoria	250	664	395
Burns (CO)	262	375	266
Eugene	189	374	211
Meacham	344	663	484
Medford	140	195	77
Pendleton	158	200	104
Portland (CO)	106	199	112
Portland	173	286	163
Roseburg	173	297	
Salem	172	323	157
Sexton Summit (CO)	275	593	326
PENNSYLVANIA			
Allentown	100	101	98
Harrisburg	67	67	69
Philadelphia (CO)	16	16	33
Philadelphia	32	32	47
Pittsburgh (CO)	30	30	56
Pittsburgh	59	61	114
Reading (CO)	56	56	62
Scranton (CO)	133	133	133
Williamsport	105	105	117
RHODE ISLAND			
Block Island	74	76	115
Providence	116	127	133
SOUTH CAROLINA			
Charleston (CO)	0	0	0
Charleston	0	0	0
Columbia	0	0	0
Florence	0	0	0
Greenville	[illegible]	2	10
Spartanburg	1	1	7
SOUTH DAKOTA			
Huron	169	172	175
Pierre	155	155	
Rapid City	184	184	249
Sioux Falls	164	167	192
TENNESSEE			
Bristol	0	0	58
Chattanooga	0	0	24
Knoxville	0	0	33
Memphis	0	0	17
Nashville	0	0	22
TEXAS			
Abilene	0	0	5
Amarillo	32	32	37
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	0	0	0
Del Rio	0	0	0
El Paso	0	0	0
Ft. Worth	0	0	0
Galveston (CO)	0	0	0
Galveston	0	0	0
TEXAS (Cont'd.)			
Houston (CO)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	4	4	23
Midland	0	0	
Port Arthur	0	0	0
San Angelo	0	0	0
San Antonio	0	0	0
Victoria	0	0	0
Waco	0	0	0
Wichita Falls	0	0	5
UTAH			
Milford	140	140	114
Salt Lake City	120	122	88
VERMONT			
Burlington	234	266	238
VIRGINIA			
Lynchburg	21	21	49
Norfolk	0	0	9
Richmond	9	9	33
Roanoke	21	21	50
WASHINGTON			
Olympia	267	561	381
Seattle (CO)	171	337	228
Seattle-Tacoma	243	520	337
Spokane	238	344	250
Stampede Pass (CO)	474	1232	925
Tatoosh Island (CO)	324	968	898
Walla Walla (CO)	126	151	93
Yakima	201	279	157
WEST VIRGINIA			
Charleston	6	6	60
Elkins	71	72	162
Huntington (CO)	1	1	35
Parkersburg (CO)	12	12	56
WISCONSIN			
Green Bay	199	223	273
La Crosse	118	124	183
Madison (CO)	109	112	177
Madison	133	137	194
Milwaukee	104	107	186
WYOMING			
Casper	190	191	268
Cheyenne	221	234	313
Lander	229	235	274
Sheridan	244	268	307
ALASKA			
Anchorage	554	1103	1040
Annette	377	978	836
Barrow	1125	2953	2641
Bethel	594	1360	1298
Cordova	552	1332	1233
Fairbanks	634	1140	1057
Juneau	534	1177	1134
Kotzebue	713	1509	1550
McGrath	646	1283	1193
Nome	692	1612	1660
Northway	707	1317	1211
St. Paul	649	1829	1710
Yakutat	539	1277	1257
Cold Bay	558	1504	

Data from airport unless otherwise specified.
Co indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4

September 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Eustis (3 miles east of), Fla.	2	Afternoon			0	0	$0	$0	Waterspout	Waterspout over lake.
West Palm Beach, Fla.	2				0	0	0	0	Waterspout	Visible from Weather Bureau Airport Station and reported by aircraft as touching surface of ocean about 12 miles south-southeast of airport.
Vera (near), Knox County, Tex.	3	5 p.m.	5	800				20,000	Hail, rain, and electrical	Damage to crops 4 miles west and 5 miles southeast of Vera. Storm moved northeastward.
Gilliland, Knox County, Tex.	3	6 p.m.	5	*3/4			5,000	50,000	Hail, electrical, and rain	May be same as storm which struck Vera. Reported funnel-shaped clouds were probably mammato-cumulus. Storm moved northwestward.
	3									Minor storms also reported at Lake Wales, Fla.; and near Redfield, S. Dak.
Rogue River Valley, Jackson County, Oreg.	5	P.m.	3-8	*1-3			Negligible	300,000	Wind	Fairly high winds moving over approximately 2-mile wide path blewdown an estimated 100,000 boxes of pears. 1 or 2 older buildings damaged, but their value negligible. Storm moved west-northwestward.
Upper Hood River Valley, Oreg.	5	P.m.	4-5	*1-3			Negligible	80,000-100,000	Wind	Straight-line windstorm that blew down estimated 35,000 boxes of pears in upper Hood River Valley in area of West Side, Dee, and Parkdale. Storm moved eastward.
	5									Minor storms also reported near South Haven, Kans.; and near Prineville, Oreg.
Oregon, entire State	5-6	Afternoon-evening 5th-morning-afternoon 6th			2		Millions	5,000-10,000	Electrical	Lightning storm, with no accompanying rainfall. Injuries and property damage due, not to actual lightning strikes, but to forest, bush, and grass fires which they started. Dry lightning storm which struck at practically every area in State caused hundreds of fires in grass land, brush, and heavy timber, also in some suburban-home areas. 2 or 3 small towns including Seneca, Blackwell Hill, near Gold Hill, and others threatened at times and 5 homes destroyed near Medford. 2 men fighting fire trapped and burned to death. In addition to several thousand acres of timber destroyed, 2 piles of felled and bucked logs containing 1,180,000 board feet destroyed in forest fire 23 miles south of Sweet Home. Near Izee several beef cattle surrounded by fire and killed. Preliminary figures computed by Forest Service indicates that between 15,000 and 20,000 acres of timber destroyed in Federal Forests. It appears likely that total on State and privately-owned land was as large if not larger. At peak there were over a thousand men fighting fires and a large number of heavy trucks, bulldozers, and other motor equipment in use. Some of these fires were not caused by lightning, but large share of more destructive ones were. Storm moved eastward.
	7									Minor storm reported at Wildwood, Fla.
	8									Minor storm reported at Swiftbird Creek, S. Dak.
Des Moines, Iowa	9	10:30 a.m.				1	2,500		Wind	Blew down wall of building under construction and damaged trees and powerlines. Man burned by downed powerlines.
Cashton, Monroe County, Wis.	9	P.m.					20,000		Electrical and rain	Lightning set fire to several buildings on 3 farms; contents destroyed. Storm moved eastward.
Shawano (near), Shawano County, Wis.	9	P.m.					26,800		Electrical, wind, and rain	2 barns set afire by lightning and destroyed, 1 at Thornton and the other at Belle Plaine. Contents all destroyed also some livestock. Storm moved eastward.
Garden, Delta County, Mich.	9	Night				1	5,000		Electrical and rain	Lightning destroyed barn and 4 head of cattle, and injured owner.
	9									Minor storms also reported in northern Hardin County, Iowa; and in Osborne County, Kans.
Jersey and Macoupin Counties, Ill.	10	3 p.m.					10,000	100,000	Wind, hail, and rain	Considerable damage to field crops.
Illinois, west-central portion	10	3:30 p.m.					50,000	75,000	Wind, electrical, and hail	Severe local thunderstorms caused damage in belt covering portions of McLean, Ford, northwestern Champaign, Iroquois, and Kankakee Counties. Tents damaged at Ford County Fair, some barns ignited by lightning, and spotty hail damage.
Augusta (3 miles south of), Butler County, Kans.	10	3:55 p.m.			0	0			Tornado	Funnel cloud observed by highway patrolman. Contact with ground brief; windows broken and shingles torn from roof.

See footnote at end of table.

ble 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
awford and rie Counties, a.	10	Afternoon							Wind, hail, electrical, and rain	Area of severe thunderstorms moved northeastward along cold front approaching from northwest. Several buildings blown down in Centerville area, and 2 homes damaged extensively in area of Little Corners in Crawford County. Many trees blown down and utility services disrupted in 2-county area. Some hail fell at Springboro in western Crawford County.
wer Michigan, outheastern ortion	10	Afternoon and evening			1		$5,000		Electrical, wind, and rain	Lightning killed girl near Detroit. Wind badly damaged pier near Algonac and blew down several trees in Greater Detroit area.
fton, Dickens County, Tex.	10	5 p.m.	8	*1-11/2			1,500	$10,000	Hail and rain	Storm moved southeastward.
rt Worth, Tarrant County, Tex.	10	6 p.m.				1	Several thousand		Wind	3 airplanes damaged at Meacham Field; gusts to 67 m.p.h. Boaters on Lake Worth upset into water. Storm moved southward.
illsboro, Hill County, Tex.	10				1	3			Electrical	
	10									Minor storms also reported near Eureka and at Coffeyville, Kans.; at Paducah and in Harrison County, Ky.; near Bryan, Mo.; and at Anson and Lubbock, Tex.
	11									Minor storms reported at Jacksonville and Fernandina Beach, Fla.
indom and vicinity, Cottonwood and Jackson Counties, Minn.	12-13	P.m.-a.m.	12	*2			8,500	15,000	Electrical, hail, and rain	Pea-size hail damaged soybeans estimated at $15,000. Number of places struck by lightning. 500 tons of flax straw at Windom destroyed by fire started by lightning. Minor lightning damage occurred throughout extreme southern Minnesota. Storm moved east-northeastward.
owa, central and eastern portions	13	Early morning			1		30,000		Electrical	Burned several farm buildings and contents.
orpus Christi (near), Nueces County, Tex.	13	2:13 p.m.			0	0	0	0	Tornado and rain	Observed by airline pilot 16 miles north of Corpus Christi; no evidence of damage.
	13									Minor storms also reported near Unionville and Queen City, Mo.
ichigan, scattered areas	13-14	P.m.-a.m.				1	40,000	2,000	Electrical, wind, and rain	Most damage occurred in central Lower Michigan, although barn destroyed by lightning near Manistique in Upper Peninsula. Several other barns damaged by lightning and winds, and 2 homes destroyed.
onroe and vicinity, Green County, Wis.	13-14	P.m.-a.m.					36,600		Electrical and rain	Many farm buildings set afire by lightning and destroyed. Storm moved eastward.
ussell (north of), Russell County, Kans.	14	5 a.m.			0	0			Tornado (suspected) and wind	Buildings damaged on several farms. Cow killed when barn blown over. Reports by early risers, of air being unusually hot and still, just before winds arrived.
isconsin, eastern portion	14	A.m.					80,000		Electrical, wind, and rain	Lightning set fire and destroyed many barns and farm buildings including their contents. Some livestock also perished. Storm moved eastward.
aty (near), Harris County, Tex.	14	2 p.m.			0	0	0	0	Tornado	Funnel, not touching ground, reported 1 mile northeast of Katy.
llinois, central portion	14	Afternoon					75,000	25,000	Electrical	Damaging thunderstorms occurred in Peoria, Fulton, and McDonough Counties and at points in Vermilion County.
	14									Minor storm also reported at Orange, Tex.
ouston (near), Harris County, Tex.	15	1:40 p.m.			0	0	0	0	Tornado	Funnel cloud, not touching ground, reported 8 miles south-southwest of Houston Airport.
oster County, N. Dak.	15				1		15,000	20,000	Wind	Wind estimated at 70 to 80 m.p.h., blew for about 10 minutes. Man killed when barn blown down.
	15									Minor storm also reported in north-central Nebraska.
	15-16									Minor storm reported in eastern South Dakota.
tearns, Benton, Mille Lacs, Isanti, and Kanabec Counties, Minn.	16	2:30-3:50 p.m.	12	*1	1	0	175,000		Wind, hail, electrical, rain, and tornadoes	About 35 barns, other farm buildings, farm machinery, etc., destroyed and damage on an additional 50 farms, rural powerlines downed; many trees uprooted; livestock and poultry perished; several automobiles wrecked; haystacks and corn shocks scattered; some damage to growing crops from wind and hail. Fatality indirectly attributed to storm. Several small funnels reported south of Bock, Mille Lacs County. Path of storm not con-

See footnote at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Minnesota (Cont'd)										tinuous. Tornado characteristics reported in places. Storm moved northeastward and eastward.
	16									Minor storms also reported at Redbay, Fla.; and near Superior, Wis.
Duluth, Ottertail, and St. Paul areas, Minn.	16-17	P.m.-a.m.					$32,500		Rain and electrical	Utilities disrupted; basements and streets flooded; much erosion. Some creeks overflowed. Incessant lightning struck a number of buildings. Property damage due to rain estimated at $25,000, lightning damage $7,000. Near Ottertail small barn struck and destroyed by lightning. Minor lightning damage also occurred at St. Paul.
	16-17									Minor storm also reported in western portion of Upper Michigan.
Silverdale and vicinity, Koochiching County, Minn.	17	7:30-8 p.m.	1/4	23	0	0	500	$0	Wind, hail, electrical, rain, and tornado	Roof of house lifted and carried about. Shack was rolled 25 feet end-over-end. Wall of cabin fell outward. Telephone pole picked up, carried across road, and driven endwise through window of house. Aluminum canoe carried about 300 feet. Storm cut 70-foot swath through nearby grove of trees. Funnel-shaped cloud reported during flashes of lightning. Storm moved northeastward.
Cavalier County, N. Dak.	17	10:15-11:30 p.m.	150			1	10,000	100,000	Hail, rain, and electrical	Hailstones reported as large as baseballs over small area and as large as golf balls over larger area. Windows broken, roofs damaged, poultry killed, and late flax ruined. Man severely bruised by hail. 5 cows killed by lightning on 1 farm.
Spink County, S. Dak.	17	Evening					4,000	6,000	Electrical	Lightning and fire destroyed 4 farm buildings and 3,000 bushels of grain near Ashton. Minor damage near Tulare and Northville.
St. Paul (1-1/2 miles west of), Nebr.	17	Evening					10,000		Electrical	Large farm home and contents, including 700 bushels of alfalfa seed burned.
Loup City (4 miles south of), Nebr.	17	Near midnight	2	50	0	0	2,000	0	Tornado	Several farm buildings damaged, and large barn destroyed. Storm moved north-northeastward.
Corpus Christi (near), Nueces County, Tex.	18	1:22 p.m.			0	0	0	0	Waterspout	Pilot reported waterspout 1 mile north of Corpus Christi over Nueces Bay.
Victoria (near), Victoria County, Tex.	18	2:22 p.m.			0	0	0	0	Tornado and rain	Funnel, not touching ground, observed 12 miles north of Victoria Airport; moved north-northwestward.
	18									Minor storms also reported at Denver, Colo.; at Jacksonville, Fla.; and at Firesteel and near Flandreau, S. Dak.
Roggen (2 miles south of), Weld County, Colo.	18-19	7p.m.-4a.m.	9	*6			Moderate	Heavy	Rain, hail, and electrical	From 3 to 5 inches of moisture fell over large area, with hail reported in small portion thereof. Runoff filled irrigation ditches to capacity and caused some damage to farmlands and crops. Storm moved northeastward.
Horry, Dillon, Darlington, Georgetown, and Marion Counties, S. C.	18-19						15,000	20,000	Hurricane "Ione"	Storm center moved northward off South Carolina coast entering North Carolina coastline during early morning of 19th. Center of storm about 150 miles east of Myrtle Beach as it passed abreast that station. Excessive precipitation apparently confined to northeastern quadrant of South Carolina, with precipitation of an inch or more spreading inland as far west as Florence. During course of storm Conway reported 4.45 inches, Myrtle Beach 3.86 inches. Offshore winds along coastline kept tides down to relatively low values. In fact Garden City reported extra low tide due to offshore winds during passage of storm. In general tides not as high as during "Connie." Some erosion occurred along Horry County beaches, but in general damage light. Heavy rains associated with storm responsible for some flooding along Waccamaw River and associated rivers in northeastern tip of State. Soil in this area became waterlogged, with considerable damage to open cotton.
North Carolina, eastern portion	19	5 a.m.-midnight			7		53,000,000	35,000,000	Hurricane "Ione"	Storm center entered coast near Morehead City, traveled slowly and erratically north-northwestward, then veered gradually, passing near Elizabet City and northeastward out to sea. Most damage du to water from high tides and river flooding, rathe than directly to wind. 5 persons drowned, 2 killed in automobile accidents.
Denver, Colo.	19	1-3 p.m.	6	*4			20,000	Light	Rain	Heavy runoff inundated houses and flooded streets.
Pueblo (5 miles east of), Colo.	19	Afternoon					Light	Heavy	Hail	3 seperate storms; hail accumulated to depth of 3 inches. Losses to sugar beets and other row crops heavy over limited area.
Pennington County, S. Dak.	19	Afternoon					11,000		Rain	Small bridges, culverts, and portions of State highway #40 washed out around Scenic, Conata, and Interior. Minor flooding near Smithwick. At Scenic a total of 7-1/2 inches fell in two downpours.

See footnote at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

September 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Polo (5 miles southwest of), Ray County, Mo.	19	6 p.m.			1				Electrical and rain	Farmer killed while driving cows from pasture.
	19									Minor storm also reported at Fort Collins, Colo.
Virginia, southeastern portion	19-20	Early a.m. 19th-early a.m. 20th						Heavy	Hurricane "Ione"	Despite wind gusts up to 58 m.p.h., at Norfolk, 42 m.p.h., at Richmond, and 38 m.p.h., at Washington National Airport, wind damage minor but somewhat extensive in lower Tidewater area, where crops hit by hurricane "Connie" and drenched by flood rains of "Diane" were damaged heavily by water ankle deep in fields. Tides caused some flooding of some low-lying streets in downtown Norfolk to depth of 1-1/2 feet. Storm moved east-northeastward.
Scottsbluff County (southwestern portion), Nebr.	20	Morning	8-9	*2-3			Light	$250,000	Hail	Many ripe beans shattered, and sugar beets defoliated, resulting in heavy loss of sugar content.
South Dakota, western and southern portions	20	11 a.m.-9 p.m.						2,000	Wind, electrical, hail, and rain	Severe thunderstorms began near Black Hills at 11 a.m.; storms moved eastward, rain moderated, but lightning and wind increased. Within 12-mile radius of Centerville, wind destroyed 2 barns and numerous smaller buildings between 7 and 8 p.m. At Sioux Falls at 7:50 p.m., 575-foot tower toppled, apparently due to wind. Locally heavy rains south of Badlands.
Newell (1/4 mile southeast of), Butte County, S. Dak.	20	11:15-11:30 a.m.	1 1/4	150-200	0	0	$3,500	100	Tornado	Tornado moving east-northeastward demolished several farm buildings.
Otis (10 miles north of), Washington County, Colo.	20	Noon-12:15 p.m.	5	*1			2,000	32,000	Hail	Hailstones to size of golf balls accumulated on ground to depth of several inches. Storm moved eastward.
Eastern Norton and western Phillips Counties, Kans.	20	Afternoon				1			Wind, hail, and rain	Wind blew down or damaged several farm buildings and turned over school bus, injuring driver. Soft hail size of baseballs fell near Prairie View, stripping trees, etc. Heavy rain caused overflows of small streams, delaying traffic on highways.
Brewster (south and east of), Nebr.	20	4 p.m.	12-15	Narrow	0	0	4,000	0	Tornado	About 2,000 bales of hay picked up and scattered; large cattle shed and fences destroyed. Storm moved northeastward.
Franklin (west and north of), Nebr.	20	4-5 p.m.					10,000		Hail and wind	Storm damage spotted. Property damage from wind; light to moderate crop damage from hail.
Sargent (west and north of), Nebr.	20	Late afternoon	8-10	Narrow	0	0	3,000	0	Tornado (suspected)	Farm buildings damaged, and 1 small brick and lumber henhouse destroyed. Storm moved northeastward.
Amarillo, Potter County, Tex.	20	6:30 p.m.	3/4	100		16	50,000		Wind, hail, and rain	All injuries and most of damage to temporary structures at Tri-State Fair Grounds. Storm moved east-northeastward.
Nuckolls County (northwestern portion), Nebr.	20	Evening	5-6	Narrow	0	0	4,000	Light	Tornado	Several farm buildings wrecked. 500 turkeys killed. Funnel cloud observed. Storm moved northeastward.
Edinburg, Hidalgo County, Tex.	20				0	0		0	Tornado (suspected)	Destroyed garage and moved 2 houses.
	20									Minor storms also reported at Aurora and East Denver, Colo.; near York and Hordville, Nebr.; and in Weston County, Wyo.
Waverly (near), Coffey County, Kans.	21	3:50 p.m.	1/4	35	0	0	3,500	0	Tornadoes, rain, and hail	2 funnel clouds observed; one 6 miles south and 1 mile west of Waverly destroyed chickenhouse and quonset-type implement shed 80 by 36 feet and scattered farm machinery over large area. Other funnel observed southeast of Waverly toward Garnett, but did not touch ground. Storm moved northeastward.
Fortuna (near), Morgan and Moniteau Counties, Mo.	21	4:30 p.m.	5	500	0	0	1,500	Slight	Tornado (suspected) and electrical	2 barns and 1 house damaged by wind. 1 barn burned after lightning strike. Storm moved northeastward.
Cottonwood Falls (1 mile west of), Chase County, Kans.	21	5:30 p.m.							Electrical	Large 2-story barn struck by lightning and burned, with contents of baled hay, oats, barley, and 2 calves and farm machinery.
Tipton (near), Tipton County, Ind.	21	5:30-10:30 p.m.							Electrical, wind, and rain	Lightning destroyed $20,000 barn east of Tipton. Transformers also struck by lightning, causing about $3,000 damage. Wind blew down garage west of Tipton, and also blew trees down on 10 automobiles. Trees in City Park badly damaged. Chimney blown over upon 1 automobile. About 200 telephones out of service, some of which were out of service for several days. Storm moved eastward.

See footnote at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Shawnee and southern Jackson Counties, Kans.	21	7:15-7:25 p.m.	12	*1			$25,000	$5,000	Hail	Some stones as large as hens' eggs. Most damage to roofs and windows, and to automobiles. Damage extended from northeast of Dover to near Hoyt Storm moved northeastward.
Illinois, southwestern portion	21	Evening					50,000	100,000	Thunderstorms	Damaging thunderstorms occurred over wide area including Macoupin, Montgomery, Jersey, Calhoun, Christian, Effingham, and Jasper Counties. Heavy rains at local points caused severe flooding, but damage at any one point in area affected not of major proportions.
Anderson, Madison County, Ind.	21	Night					500	15,000	Wind, rain, and electrical	Trees and powerlines downed. Most of apple crop blown from trees in 1 large orchard.
Hutchinson, Reno County, Kans.	21	Night				1			Electrical	State fair building struck by lightning, no damage, but attendant suffered minor injuries.
	21									Minor storms also reported at Kissimmee, Fla.; at Sullivan and near Rushville, Ind.; at Humboldt and near Stafford and Toronto, Kans.; near Monroe City, Mo.; and at River Falls, Wis.
Lyon County, Kans.	21-22	8:20 p.m.-5 a.m.							Electrical	3 barns struck by lightning as follows: (1) On 21st, 12 miles southeast of Emporia, barn and contents of 60 tons of hay and grain destroyed. (2) On 21st, 2-1/2 miles southwest of Hartford, barn and contents of hay destroyed. (3) On 22d, 22 miles northeast of Emporia and north of Miller; large barn and 600 tons of alfalfa lost.
	21-22									Minor storm also reported at Brookville, Ind.
Saune Creek, Miller County, Mo.	22	4:50 a.m.				1			Electrical	Bolt of lightning killed cow which fell and pinned down owner for an hour. Owner suffered burns and the charge left his clothing in shreds. He was knocked unconscious. Rubber boots he was wearing probably saved his life.
Miller (north of), Lyon County, Kans.	22	6 a.m.					18,000		Electrical	Lightning struck large hay barn; barn and contents of 500 tons of baled alfalfa burned.
Russell (4 miles southwest of), Russell County, Kans.	22	Morning					18,000		Electrical	525 barrels of oil and 6 units of a tank battery belonging to Cities Service Oil Co., destroyed by fire resulting from lightning strike.
Topeka (15 miles southeast of), Shawnee County, Kans.	22	1:55 p.m.			0	0	0	0	Tornado	Funnel cloud noted by Forbes Air Force weather observer, about 10 or 12 miles directly east of Forbes Air Base. Funnel appeared momentarily suspended from clouds and then dissipated.
Gunn City (1 mile south of), Cass County, Mo.	22	4:10 p.m.	3	1,500	0	0	12,000	6,000	Tornado (suspected), hail, and rain	Hailstones 1-1/2 inches in diameter. Large barn and other storage buildings leveled. Storm moved southeastward.
Emporia, Lyon County, Kans.	22	5:30 p.m.				1			Electrical	Bolt of lightning struck barn, causing little damage but stunned owner who was doing chores.
Great Bend (west of), Barton County, Kans.	22	5:45 p.m.			1	0	0	0	Tornado	Tornado dipped to earth only momentarily in open country. Man died of heart attack when he sighted funnel. Storm moved northeastward.
Topeka, Shawnee County, Kans.	22	6:40 p.m.					10,000		Electrical	Horse barn and 13 milk-route horses burned after barn struck by lightning.
	22									Minor storms also reported at Longford and near Newton, Kans.; in Jessamine County, Ky.; and at Kilgore, Tex.
Sarasota (20 miles southeast of), Fla.	23	4:55 p.m.			0	0	0	0	Tornado	Tornado reaching ground reported by aircraft pilot.
Olney, Young County, Tex.	25	4:30 a.m.	1	50	0	0	25,000	0	Tornado and rain	Tornado moving northward demolished 4 business buildings and several other structures.
Dimmitt, Castro County, Tex.	25				0	0	0	0	Tornado	Funnel, not touching ground, reported.
Greenwood (near), Sebastian County, Ark.	27						15,000		Electrical	12 head of registered Hereford cattle in pasture killed by lightning.
	27									Minor storm also reported near Concordia, Mo.
	28									Minor storm reported at St. Petersburg, Fla.
Illinois, central and southern portions	29	Afternoon					100,000	150,000	Thunderstorms	Scattered but numerous thunderstorms caused wind and local flood damage at a large number of points in southern two-thirds of State.
Buffalo (near), Dallas County, Mo.	29	6 p.m.				1	1,300		Electrical, wind, rain, and hail	Farmer burned on chest when bolt struck barn, wife nearby uninjured. Wind and hail caused damage. Storm moved southeastward.

See footnote at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Edmond, Oklahoma County, Okla.	29	6:30 p.m.	5	*1			$40,000	$20,000	Wind and rain	Thunderstorm with straight-line wind estimated at 90 m.p.h. 305-foot radio tower toppled by high winds. Drive-in theatre screen completely destroyed. Storm moved northwestward.
Kentucky, north-central portion	29	P.m.					9,000	1,000	Wind, rain, and electrical	Wind knocked down power and telephone lines and trees and limbs, also damaged a few barns and other farm buildings.
Mt. Vernon, Posey County, Ind.	29	Evening					40,000		Electrical, wind, and rain	Large transformer severely damaged to extent of about $35,000 by lightning. Trees and telephone lines blown down by winds.
New Albany, Floyd County, Ind.	29						21,000		Wind, electrical, and rain	Wind ripped off large section of church roof. Light airplane picked up by wind and hurled 75 feet and destroyed.
	29									Minor storms also reported in Clay County, Ark.; in Page and Jones Counties, Iowa; in Jefferson County, Ky.; near Potosi, Monett, Golden, Whitewater, and at Jack, Mo.; and in Bamberg area, S.C.
	30									Minor storms reported in Washington County, Ark.; and at Fort Worth, Tex.
DELAYED REPORT.										
Wichita, Sedgwick County, Kans.	June 28	Afternoon			1	2			Electrical	Man killed and 2 boys injured on golf course when they took shelter under tree during storm.

* Miles instead of yards.

TROPICAL STORMS OF THE NORTH ATLANTIC, SEPTEMBER 1955

Compiled by C. E. Rhodes
U. S. Weather Bureau, Washington, D. C.

Five tropical storms, Flora, Gladys, Hilda, Ione, and Janet, occurred during September 1955. All except Gladys were full hurricanes and Gladys at one time may have attained hurricane force winds. Flora's entire course lay in the North Atlantic. Gladys, Hilda, and Janet moved inland on the Mexican Coast. Ione entered the U. S. on the North Carolina coast, and was the third hurricane to pass through eastern North Carolina within 5 weeks.

Gladys caused damage in Texas estimated at $500,000, and Ione caused $88,000,000 damage and seven deaths in North Carolina. Incomplete estimates of death and destruction in Central America from Hilda and Janet amount to 1,240 lives and $163,000,000 damage.

The storms of the month are discussed below in chronological order. Their tracks are shown on the accompanying chart.

Hurricane Flora: September 3-9

Evidence of this storm was first reported by aircraft of Panair du Brazil on August 30. The storm developed near lat. 11°N., long. 21°W. and on an unstable easterly wave that passed the Cape Verde Islands during August 30-31. The circulation reached hurricane intensity on September 3 near lat. 21°N., long. 40°W.

Flora moved on a smooth parabolic path northward through the middle Atlantic, passing some 9° east of Bermuda late on the 6th and early on the 7th. The highest wind reported was 104 m.p.h. at 12:30 p.m. on the 8th at lat. 41.0°N., long. 49.4°W.

Tropical Storm Gladys: September 4-7

This storm formed and spent its short life in the southwestern Gulf of Mexico. The circulation, which was first evident on September 4, intensified and moved north-northwestward during that day. On the 5th the storm made a curve southwestward and then moved southward along the Mexican Coast, passing inland near Tampico. Heavy squalls associated with this storm occurred off the mid-Texas coast on September 5 and moved inland on the 6th. The Naval Air Station at Corpus Christi reported gusts to 60 m.p.h. Sustained winds in the Corpus Christi-Port O'Connor area reached 45 m.p.h. Strongest winds at Galveston were 24 m.p.h. (fastest mile), with a peak gust of 30 m.p.h. Highest sustained wind reported from a land station was 48 m.p.h. from the northwest at Tampico. Farther up the coast one Navy reconnaissance plane and one commercial plane reported winds of 81 m.p.h. while the center was off the coast. The Glasscock Oil Rig, positioned 15 miles east of Port Aransas, reported 75 to 80 m.p.h. winds from the north-northeast.

Heavy rains occurred in Mexico. In the Tampico area 25 inches fell in 3 days. Damage in Texas was mostly from high tides and heavy rain. The Naval Air Station at Corpus Christi received 12.23 inches of rain in 24 hours. Tides were from 1 to 3 feet above normal along the upper Texas coast. Highest tide reported was 4.5 feet in Corpus Christi Bay.

Hurricane Hilda: September 11-20

A strong easterly wave appeared in the Leeward Islands on the 11th with winds up to 46 m.p.h. in squalls. By the morning of the 12th, the squally wave had reached hurricane intensity at lat. 20.0°N., long. 69.1°W. The center passed 30 to 50 miles north of Hispaniola and then across t southern part of Cuba. By 5:30 p.m. of the 15t the center was near lat. 19.3°N., long. 85.0°W and winds had increased to 115 m.p.h. The centr pressure deepened to 28.44 inches. Hilda pass inland on the Yucatan Peninsula about 7:30 a. on the 16th about midway between Cozumel a Chetumal. The hurricane lost intensity crossi Yucatan but regained its vigor and became ev more intense over the Gulf of Campeche. The cent moved inland early on the 19th at Tampico, Mexic where the pressure dropped to 28.11 inches. Aft moving inland the center took a slight turn the south-southwest and passed south of Vil Tamuin. Highest wind estimated was 150 m.p. after the anemometer blew away when recordi 105 m.p.h.

Floods in the Tampico area were responsib for most of the casualties. On September 21 was reported that 90 percent of Tampico's stree were covered with water and one-half of the stree had deep water, with about one-half of the hous minus their roofs. Many schools and large buildings were unroofed by the storm. Newspaper reports indicated 300 deaths.

In Texas water covered the Gulf beach roads the 18th and 19th. Highest winds in the area wer 22 m.p.h. at Cliff Maus Field on the 20th.

Hurricane Ione: September 11-21

The first indication of the development of thi storm was a disturbed area at lat. 15.6°N., long 50.6°W. on the morning of the 11th, reported b Aerial Reconnaissance. The storm gradually intensified and attained hurricane force durin the night of September 14-15 when it had reache lat. 19.5°N., long. 62.6°W. From there, Ion pursued a general northwesterly course towar the North Carolina coast. It reached its greates intensity late on the 17th when a central pressur of 27.70 inches was reported and maximum winds o 125 m.p.h. were estimated. The center moved northward off the South Carolina coast, passing 15 miles east of Myrtle Beach, and crossed the Nort Carolina coast line over or a short distance t the west of Morehead City around 6 a.m. on th 19th. Moving northward the center passed wes of Cherry Point, between Oriental and New Bern and thence northeastward to the coast near th Virginia line.

Although winds of hurricane force were measure and estimated in peak gusts over a considerabl area of eastern North Carolina during Ione, sustained winds of hurricane force affected only limited area near the coast. Highest winds were in the Morehead City-Cherry Point area. A one-minute speed of 120 m.p.h. was reported on U. S. Coast and Geodetic Survey ship anchored a Minnesott Beach (near Cherry Point), while Cherry Point reported 107 m.p.h.

The principal damage occurring from Ione was due to water. Losses in South Carolina were minor and were confined to the northeastern part of th State. Some beach erosion occurred, but tides were only 1 to 3 feet above normal.

Since the approach of hurricane Connie on Augus 10, eastern North Carolina had been repeatedly drenched with heavy rains. More than 30 inches fell on the wettest portion of the State betwee that time and the approach of Ione. The 16 inches that fell on those same areas in connection with Ione brought 45-day precipitation totals up to figures without precedent in North Carolina weather history. This unprecedented rainfall, approximately one-third of it falling in about 30 hours with hurricane Ione, produced the heaviest runoff of record in downstream tributaries and coastal creeks in North Carolina. At the same time, prolonged easterly winds blew tidewater onto beaches and into the sounds and their estuaries to a height of from 3 to 10 feet above normal. The combination of tidewater from the east and flood water from the west inundated the greatest area of eastern North Carolina ever known to have been flooded.

Thousands of acres of farmland already soaked in salt water as a result of the two August hurricanes were further flooded by tidewater from the action of Ione, while many additional acres which escaped the earlier flooding were also covered. Thousands of acres of crops in the area, especially corn, potatoes, and soybeans were completely ruined. Water stood 3 and 4 feet deep in the fields. Towns and cities reported large areas under water. New Bern reported 40 blocks under water at one time. There was extensive loss of shingles, television antennas, and communication lines in the eastern half of the Coastal Plains from wind. Structural damage due to wind alone was rare, however. Crop losses amounted to approximately $35,000,000. Property losses, including other agricultural losses such as livestock, other farm property, and salt water damage to farmland were around $53,000,000.

The storm moved out to sea south of Norfolk during the night of September 19, with winds down to 60 to 70 m.p.h. in gusts. After moving out to sea the storm reintensified to near hurricane force. Gales swept the Virginia Capes, but no hurricane force winds were reported in the State.

Virginia suffered only minor wind damage. Highest tides in the Norfolk area were 3 feet above normal, causing about 1 foot of flooding in some low lying streets of downtown Norfolk. Rainfall totals in the southeast corner of Virginia were generally 3 to 4 inches. In the lower Tidewater area, where crops were hit by hurricanes Connie and Diane in August, heavy crop damage resulted from the ankle-deep rainwater in the fields.

Hurricane Janet: September 22-29

This hurricane first became apparent as a closed circulation east of Barbados (near lat. 13.5°N, long. 53°W.) on September 21 as an easterly wave which had been under observation for 5 days. By the next morning Janet was a small intense hurricane with maximum winds of 100 m.p.h. and a central pressure of 28.91 inches.

At 11 a.m. of the 22d Barbados felt the full brunt of this hurricane. Hurricane winds, high seas and tides, and torrential rains prevailed on the island for approximately 3 hours. The Grenadines experienced the effects of the hurricane from midnight of September 22 to 8 a.m. of the 23d. Incomplete reports indicate that destruction was almost complete on northwestern Grenada.

On the 26th a Navy reconnaissance plane with a crew of 9 and 2 newspapermen from the Toronto Star was lost in an attempt to penetrate the eye of the storm. On the 27th the central pressure was found to be 27.55 inches and maximum winds greatly in excess of 100 knots.

The center passed over Swan Island, leveling every building but one. The wind increased greatly after it had reached measured gusts in excess of 100 m.p.h. Weather personnel estimated winds as high as 200 m.p.h. The hurricane passed inland over the Yucatan Peninsula near Chetumal late on the 27th as a very powerful hurricane but lost force crossing the peninsula.

In northern British Honduras and the southern portion of the Mexican state of Quintana Roo the damage was described by the press as "beyond imagination". The total death toll and property loss will probably never be known, but it is estimated that more than 500 were killed, 100,000 left homeless, and that the property damage was in excess of $40,000,000. At Corazel, British Honduras, 90 percent of the buildings were destroyed, 11 persons killed, and hundreds injured. Damage amounted to $2,500,000 in the Corazel area. Early reports from Mexico indicated 200 dead at Chetumal, Yucatan, 40 at Xkalak, and unknown numbers at other points, and nearly all houses damaged or destroyed at Chetumal, Xkalak and Bacalar.

The hurricane regained its strength over the Gulf of Campeche, after crossing the Yucatan Peninsula, and moved inland between Vera Cruz and Nautla, in a sparsely settled mountainous section of Mexico. Nautla reported 70 m.p.h. winds when the station was abandoned because of rising water. Vera Cruz received 16 inches of rain while the center passed north of there.

Floods were already occurring in the Tampico area from the rains of tropical storm Gladys and hurricane Hilda when the torrential rains of hurricane Janet were added.

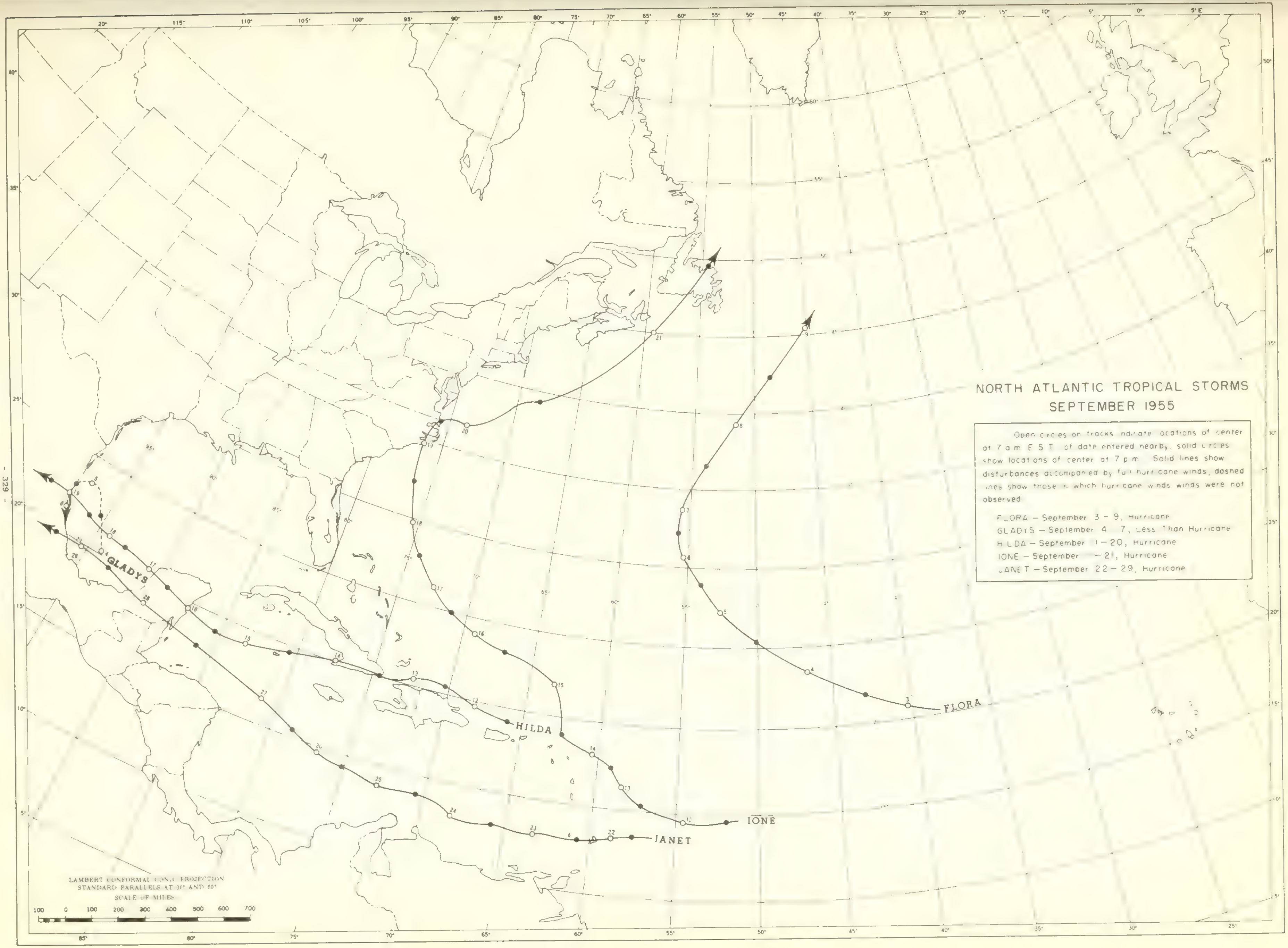
Tides were 3 to 4 feet above normal along the coast of Mexico about 100 miles south of Brownsville. Beach roads on Padre and Mustang Islands in the Corpus Christi area were blocked by high water. In Texas tides were 2.4 feet deep on Navigation Blvd. and 2.1 feet at Port Aransas.

HURRICANES AND TROPICAL DISTURBANCES

Table 18 a

September 1955

Storm name	Date	Area where first reported	Coast lines crossed	Highest wind speed reported	Lowest pressure reported	Place of dissipation reported	Intensity	Remarks
Flora	Sept.3-9	Lat. 22.3°N., long. 43.9°W.	None	104 m.p.h., estimated	28.55 in. at 31.5° N., 55.3° W.	Near lat. 46°N., long. 39° W.	Hurricane	Remained at sea
Gladys	Sept.4-7	In southwestern Gulf of Mexico	Mexico	48 m.p.h. at Tampico 81 m.p.h.(estimated) off the coast farther north.		Mexico	May have been of hurricane intensity	Damage in Corpus Christi, Tex., area estimated at $500,000. Considerable flooding and some deaths in Mexico.
Hilda	Sept.11-19	East of Santo Domingo	Cuba, Yucatan, and Mexican mainland	150 m.p.h.,estimated	28.11 in. at Tampico	Mexico	Hurricane	Damage estimated at $120,000,000 in Mexico. Floods in the Tampico area caused 300 deaths. In Cuba damage estimated at $50,000 and four lives were lost. In Yucatan $100,000 damage; 300 deaths.
Ione	Sept.11-21	At lat.15.6°N., long. 50.6°W.	North Carolina	125 m.p.h., estimated	27.70 in.	Northern Newfoundland	Hurricane	Damage estimated at $88,000,000 in eastern North Carolina; seven deaths. In South Carolina damage to property amounted to $15,000 and to crops $20,000.
Janet	Sept.21-29	At lat.13.5°N., long. 53.0°W.	Yucatan and Mexican mainland	200 m.p.h.; estimated	27.00 in. at Chetumal, Yucatan	Mexico	Hurricane	Damage estimated in excess of $2,800,000 in Barbados, Grenadines, and Carriacou. 38 deaths in Barbados, 122 in Grenada and 25 in Carriacou. Eleven lives lost aboard a Navy reconnaissance plane. There was great damage on Swan Island. Property loss estimated at more than $40,000,000 in British Honduras and the Mexican state of Quintana Roo and deaths at more than 500. From Chetumal, Yucatan, 200 deaths were reported and 40 from Xkalak. Nearly all houses were damaged or destroyed at Chetumal, Xkalak, and Bacalar.



NORTH ATLANTIC TROPICAL STORMS
SEPTEMBER 1955

Open circles on tracks indicate locations of center at 7 a.m. E.S.T. of date entered nearby, solid circles show locations of center at 7 p.m. Solid lines show disturbances accompanied by full hurricane winds, dashed lines show those in which hurricane winds winds were not observed.

FLORA – September 3 – 9, Hurricane
GLADYS – September 4 – 7, Less Than Hurricane
HILDA – September 11 – 20, Hurricane
IONE – September [illegible] – 21, Hurricane
JANET – September 22 – 29, Hurricane

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

SEPTEMBER 1955

The most important floods during September occurred in the coastal areas of the Carolinas and in the Nueces and upper Brazos Rivers in Texas. On the Neuse River at Goldsboro, N. C., the stage reached was the second highest since 1930. The floods in the upper Nueces were the worst since 1935 and the highest on record in the East Fork.

ATLANTIC SLOPE DRAINAGE

Very heavy rain (6 to 9 inches) occurred over the eastern half of North Carolina during the period from August 31 to September 5. Streams were still running high from the heavy rains of Hurricane Diane when these rains began. Runoff was high and the Neuse River at Goldsboro reached a stage of 25.5 feet on the 8th, 11.5 feet above flood stage for the second highest stage of record since 1930 (26.72 feet, September 1945). At Kinston, it reached the highest stage since February 1948 and its crest of 20.8 feet was one of the seven highest stages of record (since 1919). It remained above flood stage at this point from August 20 to September 17. The Tar River exceeded flood stage about 3 feet at Tarboro and Greenville and remained above flood stage from 4 to 6 days. The Cape Fear River exceeded flood stage from 8 to 12 feet in the reach between Fayetteville and Elizabethtown.

The streams had barely receded to within their banks when heavy rain occurred again over the lower sections in connection with Hurricane Ione. The rainfall in the lower reaches of the streams ranged from 3 to 7 inches and in the upper and middle portions from 1/3 inch to 2 inches. Flooding this time was minor and little or no additional damage resulted.

Along the South Carolina coast, the rains were very heavy and almost continuous during the first half of the month. The rainfall on the Waccamaw River at Conway, S. C., averaged from 5 to6 inches with 2 to 5 inches additional rain resulting from Hurricane Ione on the 18th, 19th, and 20th. This was the first time since December 1948 that flooding had been reported at this point. The crest of 11.2 feet was the highest since September 1945. Damage is not believed to have been heavy.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The mean monthly stage of the Minnesota River at Mankato, Minn., during September of 2.7 feet, was the lowest since 1950 when 2.1 feet (mean monthly stage) was recorded. The mean monthly stage of the Mississippi River at St. Paul, Minn., was 3.1 feet, the lowest at this point since 1949 (3.1 feet).

Missouri Basin.--Flooding occurred along the upper tributaries of the Republican River in southwestern Nebraska from heavy local rains on the 19th. A minor overflow also occurred on the North Fork of the Solomon in the vicinity of Downs, Kans., on the 27th.

The flow of the Kansas River at Topeka, Kans., reached record summer-low discharge of 190 cfs on the 9th (stage 1.63 feet). The previous record-low flow, since discharge records began in 1917, was 200 cfs on August 31, 1934, stage 1.4 feet.

Ohio Basin.--The first two decades of the month were dry and warm with all streams remaining at very low stages. The East Fork of the White River reached a new record low stage of 0.2 foot at Seymour, Ind., on the 17th. The previous record low stage at this point was 0.3 foot established August 25, 1936. A near record low stage of 1.36 foot was reached on the Levisa Fork of the Big Sandy River at Paintsville, Ky., on September 20, 1955.

Arkansas Basin.--Streams in the Arkansas Basin remained at low levels throughout the month. The Arkansas River at Tulsa, Okla., averaged 2.7 feet, or 2.3 feet below normal for September. At Van Buren, Ark., the Arkansas averaged 4.4 feet, or 2.5 feet below normal. The Cimarron River at Perkins, Okla., established a new record low mean monthly stage of 2.6 feet for September. This was 2.2 feet below normal.

Red Basin.--The Wichita River at Wichita Falls, Tex., exceeded flood stage slightly on the 27th. This rise was due to rainfall that averaged 4 inches over the basin on the 24th. About 30 families were evacuated along Holliday Creek at Wichita Falls due to flooding on the 25th, prior to arrival of main stem crest on the 27th.

Severe flooding occurred at Clarksville, Tex., due to heavy local rain (7.45 inches) which fell during a 3-hour period, following a heavy rain on the 24th. Three small creeks in the area went out of their banks, flooding about 50 blocks of residential and business property and damaging bridges and many automobiles. About 200 persons were evacuated from their homes. Considerable damage resulted from this flash flood.

WEST GULF OF MEXICO DRAINAGE

Excessive rains from midnight of the 23rd until mid-morning of the 24th caused the worst floods in the upper portion of the Nueces and Brazos Rivers since 1935. Unofficial amounts of 22 to 25 inches were reported south of Hackberry, Tex. The heaviest rain occurred over a 6 to 10 hour period, with flash flooding on the morning of the 24th in the upper Nueces.

Rainfall over the upper Brazos River (above Possum Kingdom Reservoir) ranged from 8 to 15 inches during the 24-hour period ending at 7 a.m. on the 25th. The floods along the East Fork of the Nueces were the highest on record. A stage of 30 to 32 feet was reported at Camp Wood, Tex., about 40 miles north of Uvalde, Tex., on the 24th. It was the opinion that the water in this section was the highest ever recorded. Most extensive damage occurred in the Canyon country and along the Nueces above Asherton. Damage was largely to livestock, crops, out buildings, and highways. Damage to private dwellings was small and no fatalities nor injuries were reported. There was considerable flooding in the Breckenridge, Graham, and Olney areas in Texas, in the upper Brazos watershed. Minor flooding occurred below the Possum Kingdom Reservoir.

FLOOD STAGE DATA

Table 5 (All dates in September unless otherwise specified) SEPTEMBER 1955

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			*Ft.*	
ATLANTIC SLOPE					
Roanoke: Williamston, N. C.	10	Aug 16	12	11.6	Aug [illegible]
				11.3	[illegible]
		20	27	**[illegible]	[illegible]
Tar:					
Rocky Mount, N. C.	9	3	4	9.0	4
Tarboro, N. C.	19	4	8	21.7	7
		21	24	**19.5	25
Greenville, N. C.	13	4	11	**16.9	6
		20	27	**15.9	22
Neuse:					
Smithfield, N. C.	13	1	8	23.0	5
Goldsboro, N. C.	14	2	14	25.5	8
		19	24	16.95	22
Kinston, N. C.	14	Aug 20	17	**19.6	Aug 28
				**20.8	12
		19	24	**17.2	22
Cape Fear:					
Fayetteville, N. C.	35	3	6	**42.8	5
Elizabethtown, Lock No. 2, N. C.	20	3	9	**31.4	6
Waccamaw: Conway, S. C.	7	7	#	9.0	22
MISSISSIPPI SYSTEM Missouri Basin					
Solomon: Downs, Kans.	13	27	27	16.5	27
Frenchman Creek Palisade, Nebr.	1	19	19	**6.5	19
WEST GULF OF MEXICO DRAINAGE					
Brazos: Rainbow, Tex.	20	30	30	*20.0	30
Nueces:					
Uvalde, Tex.	15	24	25	[illegible]	23
Asherton, Tex.	22	27	28	29.6	27
Cotulla, Tex.	15	30	Oct [illegible]	18.3	Oct [illegible]
Rio Grande					
Del Rio, Tex.	15	--	--	18.1	24
Eagle Pass, Tex.	16		-	16.3	25

* Provisional
** Highest stage reported but not necessarily the crest
# Continued at end of month

RADIOSONDE DATA

Average monthly values

Table 20

SEPTEMBER 1955

Standard pressure surface (mb)	ALBUQUERQUE, N. MEX. (838 MB.)				ANCHORAGE, ALASKA (1006 MB.)				ANNETTE, ALASKA (1013 MB.)				ATHENS, GA. (989 MB.)				BARROW, ALASKA (1011 MB.)				BETHEL, ALASKA (1007 MB.)				BISMARCK, N. DAK. (955 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,619	23.4	33	30	42	11.5	61	30	37	12.6	77	30	246	22.2	75	30	8	- 1.9	91	30	4	9.6	78	30	505	14.3	57
1,000	30	41			30	82			30	144	11.9	75	30	151			30	92	- 2.4	90	30	64			30	110		
950	30	506			30	508	8.1	63	30	572	9.2	73	30	600	22.9	62	30	506	- 3.1	84	30	485	5.9	80	30	553		
900	30	990			30	952	4.9	67	30	1,018	6.7	71	30	1,070	20.0	63	30	927	- 3.6	79	30	927	2.8	83	30	1,008	14.6	49
850	30	1,496			30	1,415	1.4	71	30	1,485	4.0	70	30	1,561	16.8	65	30	1,377	- 4.8	73	30	1,388	.0	84	30	1,488	11.3	51
800	30	2,027	22.0	28	30	1,900	- 1.9	74	30	1,976	1.4	69	30	2,076	13.6	64	30	1,852	- 6.7	68	30	1,871	- 2.6	81	30	1,992	8.5	49
750	30	2,585	17.8	31	30	2,415	- 4.7	72	30	2,502	- .6	57	30	2,623	10.5	57	30	2,361	- 9.3	66	30	2,385	- 4.7	71	30	2,530	5.8	49
700	30	3,168	12.8	36	30	2,951	- 7.6	62	30	3,043	- 3.2	54	30	3,189	7.6	50	30	2,884	-12.3	65	30	2,921	- 7.6	62	30	3,085	3.1	47
650	30	3,785	7.3	44	30	3,530	-10.7	63	30	3,628	- 6.5	52	30	3,801	4.3	46	30	3,458	-15.4	61	30	3,499	-10.8	58	30	3,686	- .4	46
600	30	4,437	1.5	52	30	4,136	-14.1	58	30	4,247	-10.1	53	30	4,444	.5	45	30	4,047	-19.0	62	30	4,106	-14.2	55	30	4,317	- 4.6	47
550	30	5,130	- 4.4	56	30	4,793	-18.0	54	30	4,914	-14.0	51	30	5,144	- 3.3	43	30	4,697	-23.2	63	30	4,762	-18.1	49	30	4,998	- 9.0	43
500	29	5,874	- 9.3	47	30	5,497	-22.2	50	30	5,630	-18.3	47	30	5,886	- 7.7	42	29	5,383	-27.9	59	30	5,467	-22.5	44	30	5,727	-14.1	43
450	27	6,694	-14.1		30	6,268	-27.5	50	30	6,416	-23.5	43	30	6,711	-13.2	44	29	6,142	-33.2	57	30	6,237	-27.8	40	30	6,527	-19.9	43
400	27	7,569	-20.2		30	7,100	-33.5	47	30	7,261	-29.2	44	30	7,587	-19.0	41	29	6,949	-39.1	53	30	7,068	-33.3	37	30	7,381	-26.0	39
350	27	8,544	-27.1		30	8,023	-40.2		30	8,202	-35.6		30	8,567	-25.8	38	29	7,851	-45.6		30	7,991	-40.3		30	8,333	-33.5	36
300	27	9,637	-34.7		30	9,056	-47.6		30	9,256	-43.4		27	9,664	-34.1		29	8,862	-52.3		30	9,025	-47.7		30	9,396	-41.5	
250	27	10,886	-43.3		30	10,243	-52.3		30	10,459	-51.0		24	10,915	-43.5		29	10,031	-53.5		30	10,212	-52.0		30	10,611	-49.0	
200	27	12,354	-53.4		30	11,687	-50.8		28	11,882	-54.2		23	12,381	-54.5		29	11,480	-49.2		30	11,660	-50.3		28	12,051	-53.8	
175	26	13,204	-58.7		30	12,557	-50.4		27	12,744	-53.7		22	13,225	-59.9		29	12,357	-48.4		30	12,533	-49.5		26	12,890	-55.1	
150	26	14,158	-64.1		30	13,560	-50.3		26	13,740	-54.8		22	14,177	-64.7		29	13,371	-48.1		30	13,541	-49.2		25	13,874	-57.1	
125	24	15,258	-68.4		29	14,751	-50.2		25	14,896	-55.6		19	15,286	-68.3		29	14,572	-47.8		30	14,736	-49.2		25	15,022	-59.1	
100	22	16,587	-69.6		29	16,206	-50.0		22	16,302	-55.8		14	16,619	-70.1		29	16,043	-47.9		30	16,198	-49.1		25	16,420	-59.2	
80	22	17,928	-65.5		27	17,671	-50.4		18	17,692	-55.2		10	17,964	-66.9		28	17,516	-48.4		30	17,661	-49.3		25	17,816	-59.2	
60	21	19,698	-60.8		23	19,555	-50.9		16	19,518	-55.6		10	19,724	-62.2		28	19,405	-49.0		30	19,543	-49.9		22	19,634	-58.1	
50	20	20,838	-57.7		22	20,744	-51.2		15	20,671	-56.1		[illegible]	20,865	-59.5		27	20,602	-49.4		28	20,735	-50.0		21	20,778	-57.0	
40	18	22,249	-55.5		17	22,209	-50.6		13	22,081	-56.1		7	22,276	-56.0		23	22,067	-49.6		25	22,200	-50.4		20	22,196	-55.6	
30	13	24,108	-52.5		10	24,081	-50.6		6	23,950	-55.6		5	24,124	-53.4		6	23,955	-50.4		21	24,090	-50.4		18	24,030	-53.7	
20	6	26,760	-49.2																		7	26,778	-49.6		12	26,681	-50.9	

Standard pressure surface (mb)	BOISE, IDAHO (914 MB.)				BROWNSVILLE, TEX. (1012 MB.)				BUFFALO, N. Y. (997 MB.)				BURRWOOD, LA. (1015 MB.)				CARIBOU, ME. (994 MB.)				CHARLESTON, S. C. (1016 MB.)				COLD BAY, ALASKA (1007 MB.)			
SURFACE	30	868	18.3	44	30	7	26.1	89	30	182	15.0	80	30	3	26.1	87	30	191	10.3	82	31	13	22.4	93	30	27	8.9	85
1,000	30	84			30	111	25.9	87	30	151			30	134	25.9	82	30	143			31	150	23.3	87	30	85		
950	30	537			30	569	23.6	83	30	588	15.9	60	30	588	23.4	78	30	575	10.4	73	31	605	22.0	76	30	509	5.1	84
900	30	1,000	20.1	35	30	1,034	21.1	77	30	1,046	13.1	62	30	1,057	20.9	70	30	1,020	8.2	70	31	1,068	19.4	74	30	947	2.9	80
850	30	1,491	18.1	30	30	1,528	18.5	73	30	1,524	10.2	62	30	1,551	18.3	65	30	1,491	5.9	69	30	1,559	16.6	72	30	1,408	1.4	69
800	30	2,006	14.1	32	30	2,047	15.8	71	30	2,026	7.6	52	30	2,068	15.5	62	30	1,985	3.5	63	30	2,074	13.7	72	30	1,895	- .3	59
750	30	2,551	9.7	36	30	2,600	13.0	68	30	2,560	5.3	44	30	2,615	12.2	65	30	2,513	1.0	61	30	2,624	10.7	67	30	2,415	- 2.3	48
700	30	3,114	5.4	37	30	3,170	9.9	63	30	3,117	2.7	42	30	3,189	8.7	66	30	3,059	- 1.8	55	30	3,189	7.5	63	30	2,955	- 5.1	49
650	30	3,720	1.0	36	30	3,791	6.5	58	30	3,718	- .1	41	30	3,803	5.4	61	29	3,653	- 4.3	44	30	3,804	4.2	61	30	3,540	- 8.1	49
600	30	4,353	- 3.4	38	30	4,436	2.9	55	30	4,350	- 3.4	36	30	4,450	1.7	62	29	4,272	- 7.7	40	30	4,444	.8	57	29	4,150	-11.5	44
550	30	5,038	- 8.4	38	30	5,140	- .9	51	29	5,034	- 7.6	38	29	5,149	- 2.3	57	28	4,947	-11.8		30	5,145	- 3.0	56	29	4,813	-15.5	47
500	30	5,768	-13.7		30	5,892	- 5.2	49	29	5,770	-12.3		29	5,898	- 6.3	54	28	5,664	-16.3		30	5,888	- 7.4	51	29	5,525	-20.1	48
450	30	6,569	-19.6		30	6,724	-10.2	45	29	6,572	-17.7		29	6,723	-11.3	48	27	6,450	-21.8		30	6,715	-12.2	46	29	6,304	-25.1	46
400	29	7,422	-26.2		30	7,610	-16.0	43	29	7,437	-24.4		29	7,609	-17.1	45	27	7,300	-27.5		30	7,593	-17.9	42	29	7,145	-30.7	43
350	29	8,373	-33.8		30	8,602	-22.8	39	29	8,395	-31.4		28	8,596	-24.1	46	27	8,247	-34.1		30	8,577	-25.1	44	29	8,078	-37.6	
300	29	9,434	-41.9		30	9,714	-30.7		27	9,468	-39.4		27	9,702	-32.6	44	27	9,310	-41.4		30	9,679	-33.4	39	28	9,122	-44.9	
250	29	10,648	-49.0		30	10,982	-40.7		27	10,692	-47.9		27	10,960	-42.2		27	10,526	-48.9		30	10,933	-43.0		28	10,325	-49.8	
200	29	12,097	-53.3		30	12,461	-52.9		27	12,137	-55.2		27	12,431	-53.7		27	11,970	-54.6		30	12,399	-54.8		28	11,776	-51.3	
175	29	12,952	-55.6		30	13,309	-59.6		26	12,978	-57.9		25	13,272	-59.9		26	12,822	-55.7		30	13,241	-60.7		28	12,643	-51.2	
150	29	13,928	-58.0		29	14,257	-66.6		23	13,950	-60.7		25	14,220	-65.9		25	13,797	-57.2		28	14,187	-66.2		28	13,642	-51.8	
125	29	15,070	-59.7		23	15,342	-73.7		19	15,088	-62.5		23	15,309	-71.3		25	14,947	-58.1		28	15,280	-70.4		27	14,816	-52.1	
100	29	16,459	-60.9		14	16,627	-76.6		13	16,463	-62.6		21	16,616	-73.5		20	16,347	-58.5		25	16,602	-70.9		27	16,260	-51.8	
80	29	17,846	-60.6		9	17,919	-70.7		9	17,848	-61.3		19	17,934	-68.4		11	17,739	-57.1		25	17,936	-67.0		23	17,706	-51.8	
60	27	19,646	-58.8		8	19,645	-64.5		7	19,666	-58.7		18	19,677	-64.2		7	19,544	-57.5		24	19,694	-62.3		23	19,568	-52.4	
50	27	20,792	-57.8		7	20,770	-60.2		6	20,827	-57.2		14	20,812	-61.3		6	20,692	-57.1		23	20,827	-59.6		19	20,738	-52.4	
40	25	22,198	-56.1		6	22,169	-58.1		5	22,222	-55.7		13	22,210	-58.4						21	22,232	-57.6		17	22,177	-52.0	
30	19	24,041	-53.8		6	23,996	-53.9						9	24,025	-55.6						20	24,064	-54.0		11	24,027	-52.2	
20	7	16,700	-51.0										7	26,610	-51.4						15	26,702	-50.3					
15																					7	28,598	-48.8					

Standard pressure surface (mb)	COLUMBIA, MO. (989 MB.)				DODGE CITY, KANS. (925 MB.)				EL PASO, TEX. (881 MB.)				ELY, NEV. (809 MB.)				FAIRBANKS, ALASKA (994 MB.)				FORT HUACHUCA, ARIZ. (857 MB.)				GLASGOW, MONT. (939 MB.)			
SURFACE	30	238	20.3	66	30	792	21.4	53	30	1,195	25.1	37	30	1,908	15.8	30	30	135	10.9	65	29	1,428	24.3	29	30	648	14.7	43
1,000	30	136			30	102			30	60			30	58			30	85			29	46			30	107		
950	30	588	22.8	49	30	552			30	524			30	513			30	508	8.2	59	29	514			30	549		
900	30	1,053	19.7	51	30	1,025	21.7	47	30	1,005			30	991			30	955	4.7	62	29	998			30	1,006	14.6	41
850	30	1,543	16.6	49	30	1,518	19.4	49	30	1,510	25.3	32	30	1,484			30	1,418	1.3	65	29	1,498	24.4	29	30	1,487	11.5	44
800	30	2,056	13.7	46	30	2,037	16.4	51	30	2,039	21.2	36	30	2,007	19.4	26	30	1,903	- 2.0	66	29	2,025	20.6	32	30	1,990	8.1	48
750	30	2,602	10.8	43	30	2,588	13.4	46	30	2,598	16.7	41	30	2,561	16.0	27	30	2,419	- 4.9	67	29	2,582	16.0	37	30	2,524	4.8	51
700	30	3,170	7.5	40	30	3,160	9.5	43	30	3,177	11.8	45	30	3,140	11.1	31	30	2,953	- 7.9	66	29	3,160	11.0	42	30	3,079	1.4	50
650	30	3,781	3.6	36	30	3,774	5.3	39	30	3,796	6.8	48	30	3,757	5.7	36	29	3,527	-11.1	67	29	3,777	6.3	44	30	3,677	- 2.1	47
600	30	4,420	- .6		30	4,418	.8	32	30	4,445	2.3	43	30	4,401	.1	40	29	4,132	-14.8	63	29	4,424	1.7	41	30	4,303	- 6.0	48
550	30	5,109	- 5.1		30	5,113	- 4.0		30	5,142	- 2.1	39	30	5,092	- 5.4	41	29	4,788	-18.8	62	29	5,122	- 3.3		30	4,982	-10.6	47
500	30	5,852	- 9.9		30	5,855	- 9.3		30	5,894	- 6.7		30	5,833	-11.1	41	29	5,489	-23.3	59	28	5,869	- 7.5		30	5,705	-15.7	43
450	30	6,664	-15.4		30	6,669	-14.9		30	6,723	-12.0		30	6,641	-16.9	38	29	6,259	-28.5	55	28	6,689	-13.0		30	6,499	-21.3	40
400	30	7,536	-21.6		30	7,542	-21.3		30	7,602	-17.7		30	7,506	-23.2		29	7,086	-34.3	54	27	7,571	-19.2		30	7,349	-27.4	38
350	30	8,504	-29.3		30	8,513	-28.4		30	8,587	-24.7		30	8,470	-30.3		29	8,005	-41.3		24	8,548	-26.1		30	8,295	-34.8	37
300	30	9,585	-37.7		30	9,599	-36.3		30	9,690	-32.8		30	9,549	-37.6		29	9,033	-48.7		23	9,645	-34.1		30	9,352	-42.5	
250	30	10,816	-46.9		30	10,839	-44.8		30	10,948	-42.0		30	10,784	-45.3		29	10,213	-54.3		21	10,897	-43.4		30	10,562	-49.7	
200	30	12,268	-54.7		29	12,303	-53.5		29	12,424	-53.1		30	12,249	-52.4		29	11,643	-52.4		19	12,368	-54.1		29	12,006	-53.7	
175	30	13,114	-58.4		29	13,151	-58.3		29	13,271	-59.2		30	13,105	-55.9		29	12,508	-51.0		19	13,213	-60.0		29	12,862	-54.7	
150	30	14,074	-62.3		28	14,109	-63.1		28	14,222	-65.4		30	14,077	-59.8		29	13,510	-50.6		19	14,161	-65.9		28	13,837	-56.2	
125	29	15,187	-65.6		26	15,217	-67.2		28	15,315	-71.1		30	15,206	-63.1		29	14,698	-50.3		8	15,248	-70.5		28	14,991	-57.3	
100	25	16,542	-66.9		26	16,557	-68.0		27	16,626	-72.6		28	16,580	-63.7		29	16,155	-49.8						27	16,402	-57.4	
80	24	17,898	-64.2		25	17,907	-64.4		25	17,947	-68.2		26	17,947	-63.6		27	17,623	-49.8						26	17,810	-58.0	
60	24	19,674	-60.5		24	19,677	-60.9		25	19,696	-62.3		25	19,725	-59.8		21	19,523	-50.3						25	19,629	-57.1	
50	21	20,811	-58.8		24	20,815	-58.6		23	20,829	-59.3		25	20,868	-58.0		19	20,717	-50.4						25	20,783	-56.5	
40	21	22,219	-56.4		22	22,223	-56.1		21	22,240	-56.1		24	22,277	-56.1		15	22,174	-50.3						24	22,194	-55.5	
30	18	24,061	-53.5		13	24,076	-53.3		18	24,085	-52.8		20	24,114	-53.4										20	24,025	-53.3	
20	12	26,666	-50.8		5	26,695	-50.4		13	26,718	-49.1		11	26,745	-50.5										11	26,611	-51.8	
15																									5	28,402	-52.7	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

SEPTEMBER 1955

	GRAND JUNCTION, COLO. (851 MB.)				GREAT FALLS, MONT. (888 MB.)				GREEN BAY, WIS. (992 MB.)				GREENSBORO, N. C. (988 MB.)				HATTERAS, N. C. (1017 MB.)				HILO, T. H. (1014 MB.)				INTERNAT. FALLS, MINN. (972 MB.)			
Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,474	22.5	24	30	1,123	14.2	43	30	210	14.8	71	30	273	19.8	88	30	3	23.7	86	30	9	24.7	73	30	360	12.1	74
1,000	30	38			30	105			30	141			30	167			30	151	23.1	83	30	133	23.1	72	30	118		
950	30	501			30	557			30	583	15.6	57	30	613	20.4	74	30	598	20.5	80	30	583	19.1	79	30	555	12.8	67
900	30	978			30	1,016			30	1,036	12.8	58	30	1,078	17.7	72	30	1,064	18.0	73	30	1,041	15.6	83	30	1,003	10.5	67
850	30	1,482			30	1,494	13.6	43	30	1,513	9.9	58	30	1,566	15.4	66	30	1,552	15.4	71	30	1,525	12.3	86	30	1,477	7.8	66
800	30	2,011	22.3	20	30	2,001	10.0	48	30	2,016	7.9	49	30	2,078	12.8	62	30	2,064	12.8	68	30	2,032	10.4	80	30	1,975	5.4	63
750	30	2,570	17.5	23	30	2,543	6.0	54	30	2,552	5.8	40	30	2,622	9.7	58	30	2,610	9.9	62	30	2,582	9.2	56	30	2,506	2.7	54
700	30	3,150	12.2	29	30	3,096	2.3	59	30	3,109	3.5	37	30	3,188	6.4	57	30	3,175	7.0	56	30	3,141	8.4		29	3,055	- .1	47
650	30	3,769	6.6	35	30	3,698	- 1.7	54	30	3,705	.1	34	30	3,798	2.9	54	30	3,785	3.8	50	30	3,759	5.9		29	3,648	- 3.2	43
600	30	4,415	.8	42	30	4,324	- 5.7	50	30	4,344	- 3.5	35	30	4,437	- .6	46	30	4,427	.4	47	30	4,402	2.6		29	4,275	- 6.6	43
550	30	5,106	- 5.0	44	30	5,004	-10.1	49	30	5,023	- 7.5	32	30	5,132	- 4.2	40	30	5,124	- 3.4	45	30	5,102	- 1.1		29	4,951	-10.6	41
500	30	5,849	-10.1	34	30	5,729	-15.1	46	30	5,761	-12.6	35	30	5,874	- 8.8	35	30	5,868	- 7.8	45	30	5,854	- 6.0		28	5,673	-15.6	41
450	29	6,658	-15.8		30	6,527	-20.6	40	29	6,564	-18.0		30	6,693	-14.0	37	30	6,691	-12.7	43	30	6,683	-11.7		28	6,468	-20.9	38
400	29	7,529	-22.4		30	7,379	-26.7	38	29	7,428	-24.7		30	7,568	-19.6	41	29	7,570	-18.7	39	30	7,563	-18.2		28	7,320	-27.0	36
350	29	8,494	-30.0		30	8,326	-34.5		29	8,384	-32.2		30	8,544	-26.7		29	8,551	-25.6	42	29	8,544	-26.2		28	8,268	-34.4	
300	28	9,572	-38.1		30	9,384	-42.2		28	9,452	-40.3		30	9,638	-34.7		29	9,649	-33.8	41	29	9,638	-35.2		28	9,327	-42.4	
250	28	10,804	-45.7		30	10,593	-49.9		27	10,668	-48.9		30	10,886	-43.9		29	10,901	-43.3		29	10,880	-45.4		28	10,536	-49.9	
200	28	12,265	-53.1		30	12,036	-53.4		27	12,112	-54.4		30	12,350	-54.0		29	12,366	-54.3		29	12,331	-56.7		28	11,979	-53.5	
175	28	13,117	-57.1		30	12,891	-54.8		26	12,959	-57.0		30	13,196	-59.2		29	13,211	-59.6		29	13,166	-62.4		27	12,839	-53.9	
150	28	14,082	-61.6		30	13,871	-56.7		25	13,924	-59.3		30	14,150	-63.7		29	14,161	-64.7		29	14,105	-67.4		27	13,824	-55.8	
125	28	15,201	-64.7		30	15,022	-57.7		25	15,059	-61.4		28	15,258	-66.9		26	15,261	-68.8		28	15,191	-72.1		25	14,981	-57.0	
100	28	16,558	-65.7		27	16,423	-58.2		25	16,439	-61.6		27	16,601	-67.4		24	16,593	-68.4		27	16,494	-74.1		22	16,381	-56.7	
80	26	17,917	-64.3		25	17,821	-58.0		25	17,824	-60.5		25	17,953	-64.6		24	17,937	-65.5		24	17,805	-70.6		20	17,779	-56.3	
60	22	19,684	-60.5		23	19,640	-57.3		23	19,611	-58.6		22	19,720	-61.1		23	19,708	-60.8		21	19,543	-65.1		18	19,605	-56.7	
50	20	20,823	-58.2		22	20,796	-56.7		21	20,755	-57.8		20	20,859	-58.9		20	20,847	-58.7		20	20,660	-62.8		16	20,766	-55.9	
40	18	22,232	-56.1		20	22,212	-55.7		20	22,168	-55.6		14	22,281	-56.7		19	22,253	-56.6		19	22,042	-59.9		15	22,191	-54.6	
30	15	24,069	-54.0		16	24,069	-52.9		20	24,013	-52.8		12	24,128	-53.2		17	24,094	-53.5		15	23,845	-56.2		13	24,037	-52.8	
20	11	26,720	-50.4		5	26,787	-47.5		14	26,645	-50.2						10	26,710	-50.3									
15									8	28,546	-48.7						6	28,621	-48.5									

	KOTZEBUE, ALASKA (1008 MB.)				LAKE CHARLES, LA. (1015 MB.)				LANDER, WYO. (830 MB.)				LAS VEGAS, NEV. (933 MB.)				LITTLE ROCK, ARK. (1007 MB.)				MAZATLAN, MEXICO (1006 MB.)				MC GRATH, ALASKA (998 MB.)			
Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	1,008	6.6	82	30	5	25.2	86	30	1,696	15.5	42	30	660	29.4	16	30	79	23.5	68	30	14	28.6	79	30	103	9.1	72
1,000	30	69	6.0	80	30	133	25.7	80	30	72			30	31			30	137	24.9	61	30	68	28.1	80	30	83		
950	30	493	3.3	78	30	590	23.3	77	30	522			30	494			30	593	24.4	53	30	526	25.1	83	30	503	6.0	73
900	30	924	.8	78	30	1,056	20.3	77	30	992			30	979	30.3	15	30	1,060	21.0	57	30	998	22.7	83	30	946	2.6	76
850	30	1,381	- 1.7	76	30	1,548	17.0	78	30	1,489			30	1,484	26.0	17	30	1,552	17.4	62	30	1,496	20.3	77	30	1,406	- .2	75
800	30	1,861	- 4.2	73	30	2,064	14.2	73	30	2,007	16.5	33	30	2,013	21.1	21	30	2,067	14.2	58	30	2,018	17.4	73	30	1,888	- 3.1	74
750	30	2,374	- 6.9	71	30	2,613	11.3	64	30	2,555	12.4	35	30	2,567	16.0	25	30	2,614	11.5	46	30	2,575	14.3	72	30	2,400	- 5.5	71
700	30	2,903	- 9.6	65	30	3,180	8.0	62	30	3,126	8.1	38	30	3,146	10.7	30	30	3,183	8.3	41	30	3,148	10.7	73	30	2,936	- 8.1	68
650	30	3,480	-13.1	61	30	3,796	4.7	58	30	3,733	3.6	41	30	3,761	5.7	31	30	3,800	4.8	39	29	3,770	6.8	76	30	3,514	-11.2	65
600	29	4,076	-17.1	58	29	4,438	.9	53	30	4,377	- 1.5	44	30	4,408	1.0	30	30	4,440	.8		29	4,419	2.9	76	30	4,118	-14.8	60
550	29	4,727	-21.4	53	29	5,135	- 3.1	46	30	5,062	- 6.5	43	30	5,103	- 3.6		30	5,138	- 3.4		24	5,119	- 1.3	70	30	4,772	-18.9	54
500	29	5,419	-26.2	50	29	5,881	- 7.1	45	30	5,801	-11.6	41	30	5,847	- 9.1		30	5,881	- 8.2		22	5,875	- 5.6	68	29	5,471	-23.6	53
450	29	6,179	-31.6	48	29	6,709	-12.0	43	30	6,605	-17.2		30	6,660	-15.2		30	6,703	-13.5		21	6,698	-10.4	60	29	6,240	-28.8	51
400	29	6,996	-37.4	48	28	7,589	-17.3		30	7,472	-24.0		30	7,533	-21.9		28	7,578	-19.3		21	7,592	-15.9	53	29	7,066	-34.7	48
350	29	7,903	-44.2		28	8,576	-24.0	50	30	8,431	-31.9		30	8,501	-29.1		28	8,556	-26.5		19	8,583	-23.1		29	7,984	-41.5	
300	29	8,920	-50.7		28	9,682	-32.0	48	30	9,500	-40.5		30	9,586	-36.5		28	9,651	-34.5		17	9,691	-31.5		26	9,010	-48.4	
250	[illegible]	10,096	-53.0		28	10,943	-41.5		30	10,718	-48.4		30	10,827	-44.3		28	10,901	-43.3		17	10,954	-41.5		25	10,184	-53.0	
200	28	11,542	-49.4		28	12,418	-53.0		30	12,166	-54.2		30	12,293	-53.1		27	12,374	-53.5		14	12,431	-53.5		24	11,631	-50.1	
175	28	12,417	-48.9		27	13,266	-59.0		30	13,016	-56.7		30	13,143	-57.9		27	13,222	-58.8		9	13,262	-61.1		24	12,504	-49.1	
150	28	13,428	-48.8		27	14,217	-65.1		29	13,978	-59.7		30	14,102	-62.9		26	14,174	-64.3		5	14,224	-67.6		24	13,514	-48.9	
125	27	14,634	-48.0		23	15,312	-70.6		29	15,112	-61.1		28	15,218	-66.7		26	15,275	-68.9						24	14,711	-48.6	
100	25	16,101	-47.8		17	16,618	-72.0		29	16,495	-62.2		27	16,562	-68.0		22	16,599	-69.6						23	16,179	-48.2	
80	25	17,571	-48.1		15	17,945	-68.9		28	17,875	-61.2		23	17,912	-65.5		22	17,938	-66.0						22	17,644	-48.8	
60	24	19,460	-49.2		13	19,691	-62.1		26	19,671	-59.2		22	19,679	-61.4		21	19,704	-61.6						21	19,535	-49.0	
50	24	20,653	-49.5		13	20,821	-60.3		26	20,817	-57.6		20	20,816	-58.6		19	20,835	-59.5						19	20,727	-48.7	
40	23	22,109	-50.2		11	22,234	-57.3		25	22,230	-56.1		19	22,227	-56.3		17	22,240	-56.5						16	22,196	-49.0	
30	16	24,011	-49.5		10	24,076	-53.3		20	24,062	-53.3		17	24,058	-53.2		13	24,088	-53.4						11	24,108	-48.0	
20					7	26,645	-51.2		9	26,683	-50.4		13	26,684	-49.5													
15													7	28,574	-46.9													

	MEDFORD, ORE. (968 MB.)				MERIDA, MEXICO (1008 MB.)				MIAMI, FLA. (1014 MB.)				MIDLAND, TEXAS (916 MB.)				NANTUCKET, MASS. (1019 MB.)				NASHVILLE, TENN. (997 MB.)				NOME, ALASKA (1007 MB.)			
Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	401	20.7	45	30	27	24.7	87	30	4	26.5	81	30	871	25.1	49	30	14	15.6	86	30	177	23.2	67	30	7	7.0	79
1,000	30	112			30	99	26.5	85	30	130	26.3	77	30	88			30	170	16.5	79	30	149			30	63		
950	30	564	21.3	41	30	560	24.6	82	30	584	23.5	78	30	549			30	604	14.5	72	30	600	23.8	48	30	486	3.7	79
900	30	1,024	18.4	42	30	1,027	22.2	78	30	1,054	20.6	77	30	1,025	24.7	49	30	1,062	12.5	60	30	1,069	20.4	53	30	919	.9	77
850	30	1,511	15.0	43	30	1,523	19.5	75	30	1,546	17.7	73	30	1,524	21.3	54	30	1,540	10.4	54	30	1,561	16.8	57	30	1,377	- 1.5	72
800	30	2,020	11.5	44	30	2,043	16.5	70	30	2,063	14.9	71	30	2,046	17.2	58	30	2,043	8.8	47	30	2,074	13.1	59	30	1,858	- 3.9	70
750	30	2,564	8.3	37	30	2,596	13.4	67	30	2,605	12.0	64	30	2,602	13.6	56	30	2,581	6.5	43	30	2,616	9.7	52	30	2,372	- 6.5	66
700	30	3,123	5.1	32	30	3,169	10.2	61	30	3,182	9.1	57	30	3,172	10.3	44	30	3,139	4.2	38	30	3,184	7.0	41	30	2,901	- 9.0	59
650	30	3,728	1.4	33	30	3,790	6.6	59	30	3,793	5.7	52	30	3,795	6.5	39	30	3,740	1.3		30	3,795	3.3	37	30	3,480	-12.2	56
600	30	4,363	- 2.6	29	30	4,435	2.8	59	30	4,443	1.9	48	30	4,437	2.1	39	30	4,379	- 2.3		30	4,434	- .6		30	4,079	-16.1	50
550	30	5,050	- 7.1		28	5,136	- 1.3	59	30	5,134	- 2.2	45	30	5,137	- 2.5	38	29	5,068	- 6.0		30	5,125	- 4.8		30	4,735	-20.5	47
500	30	5,784	-12.2		27	5,893	- 5.6	53	30	5,890	- 6.6	41	30	5,883	- 7.1	36	29	5,806	-10.7		30	5,868	- 9.2		30	5,428	-25.2	44
450	30	6,591	-18.1		27	6,723	-10.3	49	30	6,711	-11.3	39	30	6,708	-12.4		29	6,616	-16.1		30	6,684	-14.7		30	6,191	-30.6	41
400	29	7,443	-24.9		27	7,612	-15.8	48	30	7,601	-17.0	39	30	7,586	-18.3		29	7,486	-22.3		30	7,556	-21.1		30	7,011	-36.4	
350	29	8,398	-32.7		26	8,602	-22.8	47	30	8,588	-24.2		29	8,569	-25.1		29	8,452	-29.4		30	8,527	-28.1		30	7,923	-43.2	
300	29	9,464	-40.8		25	9,712	-31.2	45	30	9,692	-32.8		29	9,671	-33.1		29	9,533	-37.6		30	9,615	-35.9		30	8,946	-49.3	
250	29	10,682	-48.3		25	10,976	-41.3		30	10,948	-42.8		29	10,927	-42.3		29	10,767	-46.2		30	10,858	-44.2		30	10,131	-52.3	
200	29	12,131	-53.5		24	12,444	-54.1		30	12,414	-54.8		29	12,400	-53.3		29	12,217	-55.5		30	12,322	-53.4		30	11,580	-49.8	
175	29	12,985	-56.1		24	13,285	-61.2		30	13,254	-61.3		29	13,247	-59.3		28	13,062	-59.1		29	13,173	-58.0		30	12,455	-48.7	
150	29	13,958	-58.6		22	14,227	-68.7		29	14,197	-67.9		28	14,198	-65.4		28	14,020	-62.6		29	14,133	-62.7		30	13,469	-48.6	
125	29	15,096	-60.8		19	15,297	-75.2		28	15,277	-73.2		28	15,291	-71.0		28	15,137	-64.3		29	15,244	-66.7		30	14,668	-48.2	
100	28	16,480	-61.9		12	16,591	-76.7		[illegible]	16,575	-74.2		26	16,598	-72.9		28	16,499	-64.5		28	16,587	-67.6		30	16,139	-48.2	
80	26	17,871	-61.2		5	17,892	-69.8		25	17,888	-70.4		23	17,917	-68.3		27	17,868	-62.1		26	17,939	-64.2		30	17,608	-48.4	
60	26	19,663	-59.3						24	19,624	-64.1		19	19,663	-63.1		27	19,658	-59.4		25	19,712	-60.4		28	19,497	-49.1	
50	26	20,808	-57.7						23	20,744	-62.3		18	20,791	-60.3		27	20,802	-58.0		24	20,850	-58.6		27	20,691	-49.7	
40	24	22,216	-55.8						22	22,133	-58.7		18	22,194	-56.7		25	22,209	-56.4		24	22,259	-56.2		22	22,157	-49.7	
30	23	24,065	-53.1						17	23,954	-54.7		16	24,028	-54.0		24	24,046	-53.5		20	24,099	-52.9		16	24,063	-49.0	
20	16	26,673	-50.5						11	26,578	-50.5		5	26,667	-49.9		19	26,669	-51.2		6	26,697	-50.1					
15	5	28,564	-48.2																									

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20–Continued

Standard pressure surface (mb)	NORTH PLATTE, NEBR. (917 MB.)				OAKLAND, CALIF. (1012 MB.)				OKLAHOMA CITY, OKLA. (970 MB.)				OMAHA, NEBR. (968 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	848	17.5	59	30	6	15.9	75	30	391	23.0	68	30	403	20.0	54
1,000	30	99			30	106	15.9	73	30	122			30	120		
950	30	548			30	555	20.6	42	30	574	24.2	59	30	567	21.6	47
900	30	1,012	19.7	48	30	1,013	20.6	27	30	1,046	22.1	58	30	1,033	18.9	48
850	30	1,504	18.4	40	30	1,504	18.2	24	30	1,540	18.8	61	30	1,522	15.9	50
800	30	2,021	15.6	43	30	2,020	15.4		30	2,058	15.3	61	30	2,035	13.5	51
750	30	2,569	12.4	44	30	2,571	11.9		30	2,605	12.2	52	29	2,583	11.0	47
700	30	3,140	8.6	46	30	3,137	8.3	23	30	3,177	8.8	46	29	3,150	7.3	47
650	30	3,751	3.9	44	30	3,748	4.3		30	3,791	4.9	44	28	3,762	3.4	47
600	30	4,393	- .8	40	30	4,391	.1		30	4,434	.5	43	27	4,402	- 1.0	48
550	30	5,084	- 5.7	38	30	5,082	- 4.7		30	5,128	- 3.9	41	27	5,089	- 5.7	40
500	30	5,821	-10.9		30	5,824	-10.2		30	5,873	- 8.5		27	5,831	-10.5	
450	30	6,633	-16.5		29	6,638	-16.4		30	6,689	-14.0		27	6,643	-16.4	
400	29	7,498	-23.1		29	7,503	-23.1		30	7,565	-20.0		27	7,508	-22.9	
350	29	8,460	-30.6		29	8,465	-30.7		30	8,541	-26.9		27	8,473	-30.2	
300	29	9,537	-38.6		29	9,543	-38.3		30	9,633	-35.2		27	9,551	-38.5	
250	29	10,766	-46.7		29	10,774	-46.3		30	10,878	-44.0		27	10,780	-47.0	
200	28	12,217	-53.7		29	12,232	-53.4		30	12,342	-53.6		27	12,233	-53.7	
175	28	13,069	-56.8		29	13,083	-57.6		29	13,193	-58.6		27	13,084	-57.4	
150	26	14,030	-60.7		29	14,045	-61.9		28	14,146	-64.0		27	14,048	-61.2	
125	26	15,154	-64.3		29	15,163	-65.0		28	15,249	-68.6		27	15,171	-63.9	
100	24	16,514	-64.8		29	16,517	-66.0		27	16,576	-70.2		24	16,534	-64.1	
80	23	17,881	-62.9		26	17,866	-64.2		26	17,914	-65.9		23	17,904	-63.0	
60	22	19,665	-59.5		23	19,638	-60.7		26	19,678	-61.5		23	19,690	-59.4	
50	21	20,811	-57.6		23	20,778	-58.6		25	20,808	-59.0		19	20,838	-57.3	
40	21	22,225	-55.6		22	22,183	-56.5		23	22,216	-55.9		18	22,253	-55.2	
30	16	24,051	-53.4		20	24,012	-53.7		14	24,042	-53.5		16	24,107	-53.1	
20	5	26,731	-49.6		9	26,651	-50.3		9	26,667	-50.3		12	26,749	-50.1	
15													7	28,664	-48.2	

Standard pressure surface (mb)	PHOENIX, ARIZ. (969 MB.)				PITTSBURGH, PA. (978 MB.)				PORTLAND, ME. (1017 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	341	30.6	32	30	353	18.3	69	30	20	12.7	85
1,000	30	56			30	161			30	164	15.1	72
950	30	521	32.7	21	30	604	18.7	62	30	601	13.9	66
900	30	1,004	29.6	21	30	1,066	16.1	65	30	1,052	11.0	68
850	30	1,509	25.4	24	30	1,549	12.9	66	30	1,527	8.7	62
800	30	2,037	20.8	27	30	2,056	10.0	60	30	2,027	6.6	52
750	30	2,594	16.0	32	30	2,601	7.4	51	30	2,562	4.7	42
700	30	3,171	11.3	31	30	3,156	5.0	43	30	3,114	2.1	40
650	28	3,792	6.8	32	30	3,762	1.8	37	30	3,714	- .6	
600	28	4,440	1.7	33	30	4,399	- 1.4		30	4,345	- 4.1	
550	28	5,140	- 2.9		30	5,086	- 5.8		30	5,028	- 8.0	
500	28	5,883	- 7.8		30	5,827	-10.6		29	5,763	-12.3	
450	28	6,706	-13.2		30	6,635	-16.4		29	6,564	-17.8	
400	28	7,580	-19.9		30	7,503	-23.0		29	7,431	-23.9	
350	28	8,557	-26.6		30	8,467	-30.4		29	8,391	-31.1	
300	28	9,653	-34.0		30	9,544	-38.4		29	9,465	-39.2	
250	27	10,906	-43.1		29	10,773	-46.9		29	10,690	-47.6	
200	27	12,376	-53.2		28	12,222	-54.9		28	12,132	-55.3	
175	27	13,224	-58.8		28	13,068	-58.4		28	12,978	-57.9	
150	27	14,177	-64.6		28	14,029	-61.6		27	13,946	-60.8	
125	26	15,274	-69.4		23	15,150	-63.7		27	15,074	-61.8	
100	25	16,597	-70.0		16	16,513	-63.1		24	16,456	-61.3	
80	25	17,933	-66.7		12	17,882	-60.5		23	17,843	-59.9	
60	24	19,689	-61.9		10	19,687	-58.0		22	19,643	-57.9	
50	22	20,823	-58.9		9	20,841	-56.4		19	20,790	-57.5	
40	21	22,229	-56.3		9	22,259	-55.1		17	22,212	-55.2	
30	14	24,060	-53.3		9	24,106	-52.3		17	24,059	-52.4	
20	5	26,667	-49.7		6	26,743	-49.6		13	26,702	-49.4	
15												

Standard pressure surface (mb)	RAPID CITY, S. DAK. (905 MB.)				ST. CLOUD, MINN. (978 MB.)				ST. PAUL, ALASKA (1008 MB.)				SAN ANTONIO, TEX. (986 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	966	17.0	47	30	316	14.4	74	30	10	7.3	87	30	243	27.1	65
1,000	30	94			30	123			30	75			30	117		
950	30	539			30	563	16.3	61	30	499	3.5	86	30	574	25.1	67
900	30	1,007			30	1,018	14.0	60	30	931	1.0	84	30	1,045	22.0	71
850	30	1,497	16.2	44	30	1,498	10.9	60	30	1,388	- 1.1	82	30	1,540	18.8	74
800	30	2,009	12.5	49	30	2,002	8.9	54	30	1,871	- 2.2	68	30	2,059	15.4	75
750	30	2,551	9.0	54	30	2,543	6.8	45	30	2,392	- 4.3	59	30	2,605	12.3	68
700	30	3,115	5.4	54	30	3,099	4.0	44	30	2,923	- 6.7	55	30	3,180	9.5	57
650	30	3,716	1.1	53	30	3,702	.4	47	30	3,511	- 9.8	50	30	3,795	6.1	52
600	30	4,355	- 3.4	48	30	4,336	- 3.4	43	30	4,113	-13.3	51	30	4,444	2.4	47
550	30	5,036	- 8.1	45	30	5,022	- 7.7	41	30	4,776	-16.8	50	29	5,144	- 1.6	43
500	30	5,771	-13.3	46	30	5,753	-12.7	37	30	5,480	-21.3	47	29	5,895	- 6.4	43
450	30	6,571	-19.2	46	30	6,560	-18.2	35	30	6,259	-26.7	46	29	6,719	-11.4	
400	30	7,430	-25.7	38	30	7,418	-24.4	35	30	7,089	-32.6	42	29	7,604	-17.3	
350	30	8,382	-33.0		30	8,376	-31.8		30	8,015	-39.6		29	8,590	-24.0	
300	30	9,447	-41.1		30	9,447	-40.2		30	9,053	-46.4		29	9,695	-32.3	
250	30	10,662	-49.3		30	10,667	-48.5		30	10,248	-50.6		29	10,953	-41.9	
200	30	12,103	-55.0		30	12,113	-54.4		29	11,705	-50.2		29	12,425	-53.6	
175	30	12,951	-57.3		29	12,969	-56.0		29	12,576	-50.3		29	13,270	-59.9	
150	29	13,912	-60.2		28	13,943	-58.4		29	13,580	-50.8		28	14,217	-66.6	
125	23	15,037	-62.0		28	15,085	-59.9		29	14,766	-50.9		27	15,302	-72.5	
100	10	16,436	-62.9		25	16,472	-60.1		29	16,218	-50.8		27	16,598	-74.9	
80					25	17,868	-59.0		29	17,670	-50.8		23	17,906	-70.0	
60					25	19,677	-57.8		28	19,540	-51.2		22	19,636	-64.5	
50					24	20,832	-56.5		28	20,724	-51.3		22	20,756	-60.9	
40					20	22,263	-55.2		28	22,172	-51.4		20	22,158	-57.9	
30					19	24,108	-52.6		22	24,044	-51.1		16	23,980	-54.5	
20					12	26,751	-50.8						9	26,574	-50.5	
15					6	28,707	-48.5									

Standard pressure surface (mb)	SAN JUAN, P. R. (1012 MB.)				SANTA MARIA, CALIF. (1004 MB.)				S. STE. MARIE, MICH. (992 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	19	25.1	87	30	74	14.1	85	30	221	11.4	83
1,000	30	124	25.8	80	30	106	13.5	85	30	151		
950	30	577	23.3	80	30	549	18.5	58	30	583	12.2	67
900	30	1,049	20.5	79	30	1,009	21.9	32	30	1,034	10.2	61
850	30	1,542	17.7	75	30	1,503	19.9	27	30	1,508	7.9	56
800	30	2,059	14.9	72	30	2,022	16.7	26	30	2,006	5.7	55
750	30	2,608	12.1	66	30	2,576	13.2	24	30	2,534	3.3	56
700	30	3,180	9.1	62	30	3,145	10.0		30	3,089	.9	47
650	30	3,796	5.6	55	30	3,759	6.0		30	3,682	- 2.4	40
600	30	4,442	1.8	49	30	4,407	1.5		30	4,312	- 5.9	
550	30	5,137	- 2.5	45	30	5,103	- 3.2		30	4,986	- 9.7	28
500	30	5,889	- 6.9	39	30	5,849	- 8.3		30	5,718	-14.5	
450	30	6,710	-11.8	40	30	6,667	-14.1		29	6,512	-19.7	
400	30	7,597	-17.8	32	30	7,541	-21.0		27	7,361	-26.0	
350	30	8,582	-24.9		30	8,513	-28.2		27	8,314	-33.2	
300	30	9,683	-33.4		30	9,601	-35.8		27	9,378	-41.4	
250	30	10,935	-43.6		30	10,845	-44.0		27	10,591	-49.7	
200	30	12,398	-55.2		30	12,312	-52.9		27	12,035	-53.9	
175	30	13,237	-61.5		29	13,159	-57.8		27	12,888	-55.8	
150	30	14,177	-67.7		25	14,111	-62.8		27	13,864	-57.8	
125	29	15,257	-72.8		14	15,233	-66.8		27	15,010	-58.9	
100	23	16,557	-74.6		8	16,571	-68.5		22	16,399	-59.2	
80	17	17,863	-70.7		6	17,925	-66.3		21	17,799	-58.3	
60	17	19,591	-65.7		6	19,685	-61.7		19	19,615	-57.1	
50	17	20,708	-61.8		6	20,818	-59.8		18	20,774	-56.3	
40	16	22,103	-58.8		6	22,221	-56.6		15	22,185	-55.1	
30	15	23,921	-55.1		5	24,043	-53.3		13	24,048	-52.1	
20									6	26,724	-47.9	
15												

Standard pressure surface (mb)	SPOKANE, WASH. (931 MB.)				SWAN ISLAND, W. I. (1010 MB.)				TAMPA, FLA. (1015 MB.)				TATOOSH ISLAND, WASH. (1013 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	722	16.8	45	27	10	27.7	81	30	7	24.9	87	30	31	12.0	90
1,000	30	107			27	97	27.2	81	30	137	25.3	83	30	142	13.3	77
950	30	557			27	553	24.2	82	30	592	23.2	79	30	575	12.7	68
900	30	1,013	16.7	41	27	1,024	21.5	77	30	1,060	20.8	77	30	1,026	11.1	65
850	30	1,497	12.7	46	27	1,518	18.8	72	30	1,554	17.8	75	30	1,502	9.0	60
800	30	2,002	8.6	52	27	2,036	15.9	67	30	2,071	14.9	71	30	2,001	6.8	52
750	30	2,537	4.7	54	27	2,584	13.0	63	30	2,622	12.2	66	30	2,533	4.2	44
700	30	3,091	1.2	52	27	3,159	9.8	58	30	3,193	9.1	63	30	3,088	1.5	42
650	30	3,689	- 2.5	48	27	3,777	6.2	55	30	3,808	5.7	58	30	3,682	- 2.2	41
600	30	4,313	- 6.1	43	27	4,424	2.3	49	30	4,457	2.0	57	30	4,312	- 5.9	40
550	30	4,995	-10.2	43	27	5,118	- 1.8	49	30	5,158	- 1.8	49	30	4,988	- 9.9	37
500	30	5,717	-15.2	43	27	5,874	- 6.2	44	28	5,908	- 6.2	39	29	5,713	-14.9	40
450	30	6,514	-20.6	41	27	6,697	-11.2	39	28	6,738	-11.3	38	29	6,504	-20.4	42
400	30	7,365	-27.0	39	26	7,586	-16.9	38	28	7,620	-17.2	35	29	7,363	-26.7	40
350	30	8,312	-34.3		26	8,574	-24.0		27	8,606	-24.3		28	8,309	-34.2	
300	30	9,371	-42.3		26	9,679	-32.3		27	9,711	-32.6		27	9,369	-41.7	
250	30	10,580	-49.8		25	10,937	-42.4		27	10,970	-42.5		26	10,588	-48.8	
200	30	12,025	-53.4		25	12,406	-54.2		27	12,441	-54.3		25	12,040	-53.2	
175	30	12,880	-54.9		24	13,248	-61.0		27	13,284	-60.8		25	12,896	-54.8	
150	30	13,860	-56.5		24	14,188	-68.2		26	14,228	-67.3		25	13,875	-56.3	
125	30	15,011	-58.0		22	15,264	-73.9		26	15,312	-72.7		25	15,029	-57.3	
100	29	16,416	-57.9		18	16,551	-76.0		21	16,616	-73.5		24	16,441	-57.7	
80	28	17,822	-57.7		13	17,855	-70.6		19	17,928	-69.9		24	17,848	-57.3	
60	26	19,632	-57.2		11	19,579	-65.6		18	19,663	-64.0		21	19,665	-56.5	
50	26	20,785	-56.6		11	20,696	-61.9		18	20,786	-61.6		20	20,829	-56.0	
40	26	22,202	-55.4		8	22,090	-58.6		16	22,171	-57.8		17	22,262	-55.0	
30	22	24,042	-53.9		7	23,904	-56.0		14	24,000	-54.5		14	24,123	-53.5	
20	19	26,678	-50.5						5	26,602	-50.4					
15	8	28,624	-47.6													

Standard pressure surface (mb)	WASHINGTON, D. C. (1010 MB.)				YAKUTAT, ALASKA (1012 MB.)				YUMA, ARIZ. (994 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	88	19.0	79	30	12	10.4	85	28	105	33.7	24
1,000	30	173	20.0	73	30	110			28	50		
950	30	620	18.3	71	30	533	7.4	79	28	514	32.2	22
900	30	1,077	15.2	74	30	978	4.9	76	28	995	28.3	25
850	30	1,560	12.9	69	30	1,442	2.1	75	28	1,497	24.0	29
800	30	2,068	11.0	61	30	1,930	- .3	70	28	2,023	19.5	33
750	30	2,611	8.5	54	30	2,452	- 2.7	64	28	2,578	15.2	28
700	30	3,172	5.9	42	30	2,988	- 5.6	63	28	3,154	11.5	25
650	30	3,785	2.8	40	30	3,573	- 8.6	57	28	3,770	6.9	26
600	30	4,419	- 1.0	37	30	4,183	-11.9	52	28	4,420	2.4	
550	30	5,113	- 4.9		30	4,849	-15.7	49	28	5,118	- 2.2	
500	30	5,851	- 9.9		30	5,557	-20.5	48	27	5,865	- 7.2	
450	30	6,667	-15.0		30	6,337	-25.9	45	27	6,687	-13.1	
400	30	7,537	-21.0		30	7,171	-31.9	43	27	7,564	-19.8	
350	30	8,509	-28.0		30	8,100	-38.9		26	8,539	-26.5	
300	30	9,595	-36.3		30	9,140	-45.7		25	9,638	-34.0	
250	30	10,832	-45.5		30	10,338	-51.4		25	10,892	-42.4	
200	29	12,287	-54.9		27	11,781	-52.5		24	12,371	-52.2	
175	29	13,131	-59.2		25	12,644	-51.4		21	13,226	-58.2	
150	29	14,086	-62.8		23	13,654	-51.9		17	14,186	-64.1	
125	27	15,201	-65.4		21	14,825	-51.6		14	15,280	-68.4	
100	20	16,559	-65.1		17	16,288	-52.0		8	16,617	-70.3	
80	18	17,923	-62.7		17	17,734	-51.6		5	17,969	-66.3	
60	15	19,700	-59.3		13	19,624	-51.5					
50	14	20,852	-57.4		7	20,830	-52.8					
40	11	22,262	-54.7									
30	8	24,113	-52.3									
20												
15												

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T., "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for May 1955

Standard pressure surface (mb)	DENVER, COLO. (830 MB.)				FT. WORTH, TEX. (991 MB.)				OGDEN, UTAH (851 MB.)				RANTOUL, ILL. (988 MB.)				ROME, N. Y. (996 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	1,661	14.7	44	30	178	24.3	59	31	1,450	14.7	39	31	227	16.4	66	31	146	12.2	65
1,000--	31	50			30	94			31	60			31	121			31	117		
950----	31	502			30	550	23.7	54	31	512			31	567	17.6	57	31	552	13.4	60
900----	31	968			30	1,015	20.7	56	31	974			31	1,022	15.0	55	31	1,004	10.7	61
850----	31	1,456			30	1,506	17.0	59	31	1,462			31	1,503	12.2	50	31	1,477	7.7	63
800----	31	1,972	14.0	42	30	2,020	13.7	55	31	1,972	11.5	40	31	2,008	9.2	46	31	1,975	5.0	63
750----	31	2,516	10.2	42	30	2,565	10.3	51	31	2,510	7.1	45	31	2,549	6.1	45	31	2,502	2.2	61
700----	31	3,080	5.7	46	30	3,131	6.8	45	31	3,070	2.5	49	31	3,102	2.7	46	31	3,052	- 1.0	57
650----	31	3,682	.8	49	30	3,737	2.8	42	31	3,663	- 2.1	52	31	3,703	- .6	44	31	3,642	- 4.2	49
600----	31	4,317	- 4.3	50	30	4,377	- 1.8	43	31	4,294	- 7.1	56	31	4,333	- 4.4	36	31	4,266	- 7.5	44
550----	31	4,998	- 9.6	52	30	5,066	- 6.4	38	31	4,965	-12.2	54	31	5,012	- 8.9	36	31	4,940	-11.5	36
500----	31	5,724	-15.1	49	30	5,801	-11.4	37	31	5,686	-17.4	49	31	5,744	-14.0	36	31	5,663	-16.4	34
450----	31	6,515	-21.3	44	30	6,609	-17.0	35	31	6,467	-23.3	46	31	6,540	-19.5	37	31	6,449	-22.1	34
400----	31	7,368	-27.5	40	30	7,473	-23.4	35	31	7,316	-29.9	47	31	7,401	-25.2	33	31	7,302	-28.1	
350----	31	8,313	-35.0		30	8,434	-30.8		31	8,251	-37.3		31	8,355	-32.9		31	8,246	-35.0	
300----	31	9,369	-43.0		29	9,507	-39.6		31	9,296	-44.9		31	9,422	-41.0		31	9,302	-42.6	
250----	31	10,573	-51.6		29	10,727	-49.4		31	10,492	-52.4		31	10,635	-50.5		31	10,511	-50.4	
200----	31	11,994	-58.3		29	12,156	-58.4		31	11,915	-56.9		31	12,058	-59.3		31	11,941	-57.5	
175----	30	12,831	-58.9		29	12,989	-61.3		31	12,759	-56.9		31	12,889	-61.2		31	12,782	-58.3	
150----	30	13,800	-58.2		29	13,940	-63.0		31	13,734	-56.8		31	13,847	-60.1		31	13,753	-57.5	
125----	30	14,946	-58.9		28	15,060	-63.9		30	14,882	-57.5		30	14,980	-60.2		31	14,904	-57.6	
100----	27	16,339	-60.5		22	16,427	-65.3		28	16,287	-58.8		28	16,367	-61.8		30	16,311	-58.8	
80-----	23	17,731	-60.2		18	17,787	-65.3		25	17,684	-59.9		28	17,746	-62.1		29	17,706	-59.7	
60-----	18	19,530	-59.4		15	19,543	-63.4		18	19,464	-60.3		26	19,517	-62.0		25	19,512	-59.7	
50-----	17	20,675	-58.3		13	20,673	-60.7		12	20.609	-58.6		26	20,648	-60.6		24	20,654	-58.3	
40-----	16	22,082	-56.2		12	22,077	-57.1		10	22,024	-56.5		24	22,034	-58.7		22	22,063	-55.7	
30-----	14	23,934	-52.7		12	23,914	-53.5		8	23,838	-53.7		21	23,839	-55.3		19	23,909	-53.0	
20-----	8	26,569	-48.4		11	26,564	-49.2						12	26,456	-50.5		6	26,576	-50.4	
15-----					9	28,476	-45.1													
10-----					5	31,176	-42.8													

* June data for the above Air Force stations will be included in the October issue of this publication.

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

SEPTEMBER 1955

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Athens, Ga. (246 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)		
	No of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	30	166	2.9	30	228	1.9	29	81	2.3	29	313	2.4	30	280	2.2	30	322	3.2	30	85	4.6
500	--	---	---	--	---	---	29	82	3.5	--	---	---	--	---	---	--	---	---	29	96	5.2
1,000	30	162	3.8	--	---	---	29	82	3.3	--	---	---	29	275	1.6	30	314	2.7	23	104	4.7
1,500	29	168	4.1	--	---	---	27	75	3.2	29	309	2.9	27	263	2.8	30	290	1.5	19	102	4.9
2,000	29	172	3.9	30	227	2.8	22	9	.7	29	283	3.4	23	270	5.2	30	291	2.1	18	99	5.0
2,500	23	179	3.2	30	221	2.7	16	10	2.6	27	276	5.7	22	270	7.2	30	266	3.4	13	88	6.0
3,000	19	184	2.1	30	223	3.0	14	34	2.6	27	273	8.0	21	281	10.2	29	260	5.2	11	95	6.4
4,000	12	268	1.4	30	240	4.0	12	358	3.4	21	271	11.0	20	279	14.2	29	262	7.3	10	92	8.5
5,000	10	309	3.4	29	255	6.8	11	306	3.4	16	273	13.7	16	282	13.8	27	272	8.8			
6,000				25	257	7.3	10	304	4.0	15	283	15.1	15	278	16.9	24	265	11.9			
8,000				20	261	12.9										22	262	15.2			
10,000				18	254	18.0										13	271	16.7			
12,000				15	258	23.9															
14,000				13	262	22.8															
16,000																					

Altitude (meters) m.s.l.	1/ Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	254	2.0	30	219	1.8	30	69	1.9	29	283	0.1	30	160	2.6
500	29	242	2.9	30	236	3.4	29	73	3.9	29	306	.7	--	---	---
1,000	29	258	4.2	28	265	4.7	25	74	3.7	28	280	1.0	--	---	---
1,500	29	258	6.7	26	268	6.3	22	65	3.1	26	258	2.8	30	159	1.9
2,000	30	268	7.3	23	269	8.0	17	24	2.8	22	260	2.6	30	155	1.5
2,500	30	275	9.1	21	273	8.9	16	11	3.2	18	271	4.2	30	135	1.4
3,000	30	272	10.6	19	283	9.4	16	354	3.2	15	278	5.2	30	133	1.2
4,000	30	271	14.4	18	292	12.6	13	335	1.5	10	282	6.1	30	157	1.3
5,000	30	272	16.8	14	289	14.4							26	179	.4
6,000	30	272	18.1	14	288	17.5							24	354	.4
8,000	30	271	21.8	10	284	21.1							24	256	4.9
10,000	28	271	24.6										23	254	7.9
12,000	27	270	26.9										21	254	13.4
14,000	25	268	27.1										18	260	15.3
16,000	19	272	18.0												

Altitude (meters) m.s.l.	Ely Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)		
Surface	30	222	2.6	30	261	3.5	30	237	2.1	28	61	2.5	30	282	2.2	30	81	3.6
500	--	---	---	--	---	---	30	230	2.8	28	63	2.7	--	---	---	30	79	4.0
1,000	--	---	---	--	---	---	29	250	4.4	26	50	1.8	30	286	3.2	27	85	2.2
1,500	--	---	---	30	260	3.5	26	250	5.9	25	360	1.9	28	270	3.2	25	97	.2
2,000	30	229	2.9	30	264	3.7	25	258	6.6	23	359	2.5	25	265	4.3	21	284	.9
2,500	30	222	3.3	30	247	4.3	22	280	7.0	21	320	2.3	24	267	6.2	19	261	1.9
3,000	29	221	3.4	30	243	5.4	22	286	8.9	20	295	3.5	20	263	7.1	18	254	2.5
4,000	28	230	4.7	28	235	6.4	19	292	11.1	18	323	3.2	16	266	9.6	15	285	1.5
5,000	25	244	7.0	27	249	7.9	18	297	13.9	17	296	3.7	15	281	9.7	13	327	2.0
6,000	22	257	10.0	26	252	10.3	17	288	14.9	14	293	4.8	14	278	11.6	11	296	3.0
8,000	16	270	13.6	22	266	13.5	15	290	16.0	11	279	9.3	11	289	10.6			
10,000	14	283	15.0	19	264	16.4	10	283	16.1									
12,000	13	271	21.1	15	270	18.8												
14,000																		
16,000																		

Altitude (meters) m.s.l.	Little Rock, Ark. (88 m.)			Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			2/ Oakland, Calif. (8 m.)		
Surface	30	99	1.6	29	279	0.6	28	96	4.1	27	60	1.8	29	129	0.3	29	276	4.3
500	30	138	1.3	29	308	.8	28	95	4.0	27	60	2.0	29	172	.4	29	288	2.4
1,000	30	149	.8	29	330	1.5	28	96	3.5	24	46	2.3	28	229	.7	29	271	1.4
1,500	27	171	1.1	29	303	.7	27	92	3.1	23	40	2.5	27	231	.3	29	253	1.6
2,000	23	138	.8	28	208	.6	27	82	2.8	18	41	2.7	25	205	1.0	29	266	2.5
2,500	22	282	.3	26	195	.5	25	81	3.2	15	1	2.4	23	237	1.4	29	252	2.7
3,000	21	270	.3	22	1	1.1	23	75	4.2	12	360	1.4	23	248	1.4	29	260	3.0
4,000	17	260	.8	18	317	3.3	21	69	2.6				21	268	2.1	29	269	4.5
5,000	13	294	3.1	18	315	4.0	20	63	2.2				20	268	3.6	29	273	5.8
6,000	11	288	4.0	16	301	9.2	19	67	2.1				20	264	4.3	29	277	5.9
8,000				16	301	13.3	14	67	3.2				18	261	7.0	29	284	9.7
10,000							11	29	4.5				15	262	8.9	28	277	12.2
12,000													11	269	11.4	28	266	18.1
14,000													10	275	9.5	26	261	17.1
16,000																25	262	10.5

Altitude (meters) m.s.l.	Omaha, Nebr. (306 m.)			Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			St. Louis, Mo. (181 m.)		
Surface	30	184	1.6	30	210	0.9	28	71	0.6	29	209	1.0	18	216	1.2
500	30	182	2.0	30	209	1.0	--	---	---	29	226	1.7	18	183	1.4
1,000	29	182	3.5	30	220	1.1	28	68	.6	29	220	3.2	17	199	2.4
1,500	29	199	4.4	30	202	1.5	28	298	.6	25	219	5.3	17	214	3.4
2,000	27	233	6.2	30	194	2.2	27	258	2.3	22	254	7.1	14	217	4.1
2,500	26	243	8.1	30	198	2.8	24	249	5.1	20	266	9.1	14	244	5.7
3,000	24	259	10.7	30	212	3.9	20	264	7.2	19	271	11.1	14	249	6.6
4,000	20	264	10.9	29	214	4.6	19	264	10.9	19	274	12.9	13	263	5.5
5,000	17	279	10.9	27	214	5.9	17	269	12.7	16	275	15.0	11	284	6.7
6,000	15	287	11.1	24	226	6.8	17	272	13.0	15	280	16.8	11	260	8.9
8,000	13	286	12.2	21	240	9.7				12	289	20.0			
10,000	10	294	12.2	15	246	13.3									
12,000															
14,000															
16,000															

Altitude (meters) m.s.l.	San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			3/ Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			4/ Washington, D. C. (88 m.)		
Surface	30	128	3.2	30	275	3.3	30	279	1.8	30	238	2.0	30	27	0.1
500	30	123	3.8	29	291	3.1	30	274	2.5	--	---	---	30	139	.6
1,000	29	117	3.8	25	268	1.3	30	267	4.8	30	244	2.7	30	258	.7
1,500	29	112	3.7	24	233	1.0	30	270	7.1	30	251	3.1	30	276	2.2
2,000	29	119	3.3	24	189	1.1	30	273	8.3	28	262	3.1	30	294	4.3
2,500	25	123	3.0	24	194	1.2	30	277	9.6	27	267	2.4	30	290	5.9
3,000	22	127	2.5	22	198	1.9	30	282	10.9	22	271	2.5	30	286	6.5
4,000	14	178	3.2	22	206	3.9	30	281	14.3	20	267	5.0	30	284	8.0
5,000	10	196	4.0	22	188	4.9	30	282	16.7	18	292	4.7	30	279	9.3
6,000				22	202	4.3	30	281	19.4	17	301	5.4	29	272	10.9
8,000				20	235	4.9	30	283	23.5	16	333	7.7	29	267	15.1
10,000				17	257	9.9	30	278	28.8	16	324	9.6	29	262	20.4
12,000				15	257	12.8	30	273	27.7	14	338	7.7	28	265	25.5
14,000							29	275	25.6				28	262	24.5
16,000							27	278	18.7				24	271	14.7

1/ Rawin Data (Cont'd.)

18,000 m., 19 obs., 270 dir., 10.1 speed
20,000 m., 17 obs., 269 dir., 6.7 speed
22,000 m., 16 obs., 268 dir., 5.2 speed

2/ Rawin Data (Cont'd.)

18,000 m., 25 obs., 257 dir., 4.6 speed
20,000 m , 24 obs., 230 dir., .7 speed
22,000 m., 23 obs., 133 dir., 1.4 speed
24,000 m., 23 obs., 122 dir., 1.9 speed
26,000 m., 21 obs., 125 dir., 2.1 speed
28,000 m., 10 obs., 226 dir., 1.7 speed

3/ Rawin Data (Cont'd.)

18,000 m , 27 obs., 275 dir., 10.7 speed
20,000 m., 23 obs., 272 dir., 7.7 speed
22,000 m., 22 obs., 271 dir., 7.7 speed
24,000 m., 17 obs., 268 dir., 5.4 speed
26,000 m., 13 obs., 271 dir., 7.0 speed

4/ Rawin Data (Cont'd.)

18,000 m., 20 obs., 262 dir., 7.4 speed
20,000 m., 20 obs., 254 dir., 2.4 speed
22,000 m., 18 obs., 125 dir., .8 speed
24,000 m., 12 obs., 101 dir., 2.7 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Table 22

SEPTEMBER 1955

Altitude (meters) m.s.l.	Albuquerque, N. Mex. (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Athens, Georgia (246 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Cold Bay, Alaska (27 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface------	30	119	2.7	29	292	0.6	30	144	1.0	27	99	1.5	29	104	1.1	29	19	1.5	30	73	2.9	30	188	1.2	30	92	3.7	30	222	2.5	30	24	1.8	27	269	1.3
500-------------	--	---	---	29	38	.6	28	195	2.1	26	96	6.3	28	189	2.2	--	---	---	30	93	7.1	28	231	2.7	30	87	4.9	27	250	6.1	30	86	5.1	24	279	4.0
1,000-----------	--	---	- -	29	121	1.9	28	191	3.7	26	93	5.4	28	222	3.2	28	353	.4	30	94	7.1	28	243	4.8	30	82	5.1	27	266	8.3	30	98	5.0	24	267	4.4
1,500-----------	--	---	---	29	149	3.9	29	203	4.2	27	79	4.2	28	223	4.1	28	264	2.5	30	97	6.4	29	260	7.7	30	72	4.3	28	279	8.9	30	94	3.3	24	268	5.7
2,000-----------	30	169	2.2	29	163	4.5	28	226	4.2	27	69	3.5	28	227	4.8	28	267	4.8	30	94	5.7	29	269	7.3	30	73	4.1	29	273	9.5	30	104	2.0	24	269	5.9
2,500-----------	30	212	2.5	29	172	4.3	28	247	5.3	27	61	3.0	28	233	5.3	29	276	7.4	30	102	4.8	30	273	8.5	30	71	3.3	30	275	10.6	30	81	1.2	24	260	7.4
3,000-----------	30	233	3.6	30	190	3.9	28	253	6.8	27	65	2.1	26	227	5.2	28	275	9.5	30	107	5.0	30	277	10.0	30	74	2.0	30	271	11.1	29	70	1.2	25	254	8.2
4,000-----------	29	257	2.9	30	197	4.3	26	274	8.3	27	27	1.5	26	229	6.7	29	275	12.1	30	112	5.3	29	276	12.0	30	268	.7	29	262	14.2	30	291	1.8	23	251	9.4
5,000-----------	27	259	4.7	30	224	4.3	22	294	9.2	27	307	2.7	25	234	8.9	28	270	14.4	30	123	3.9	27	279	14.6	29	249	3.3	28	262	17.4	28	274	2.1	22	255	10.3
6,000-----------	27	268	5.8	30	218	5.6	21	305	10.7	27	272	4.1	24	237	9.8	28	278	16.5	30	129	3.2	27	282	14.8	29	249	3.6	26	265	20.9	27	276	4.1	21	251	13.4
8,000-----------	23	267	9.1	27	245	7.1	16	327	15.0	27	256	7.7	21	227	13.0	26	279	19.7	30	121	3.1	27	274	19.7	29	260	4.1	22	266	22.0	25	266	8.0	16	289	10.4
10,000----------	18	284	7.4	22	252	10.3	11	330	14.7	24	258	14.1	19	234	13.5	18	270	22.2	29	158	2.3	26	265	26.2	27	259	6.5	17	273	24.4	26	261	14.0	13	246	9.3
12,000----------	16	290	9.6	19	243	10.8				20	265	16.7	18	238	10.9	10	295	19.5	29	216	2.3	23	268	27.0	27	282	8.5	14	276	28.3	24	268	15.6	10	240	12.2
14,000----------	15	291	12.6	17	244	9.7				19	275	13.4	17	240	9.0				26	289	1.3	16	272	25.3	24	306	7.4	13	277	20.6	21	274	13.4	10	243	9.4
16,000----------	10	287	5.1	16	244	11.1				14	283	6.3	17	245	7.8				15	52	4.1	13	281	15.7	21	343	1.9				20	269	4.7	10	238	7.9
18,000----------	10	330	2.7	13	241	7.9				10	265	2.0	16	247	7.2										18	79	5.3				17	68	4.0			
20,000----------	10	78	5.8	12	248	6.7							15	259	6.9										15	76	9.8				17	93	6.8			
22,000----------				10	229	5.4							15	262	7.6										13	86	16.3				16	86	9.5			
24,000----------																															16	107	11.0			
26,000----------																															12	99	12.0			

	Columbia, Mo. (237 m.)			El Paso, Tex. (1,195 m.)			Fairbanks, Alaska (135 m.)			Ft.Huachuca, Ariz. (1,428 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. (871 m.)		
Surface---------	30	119	1.9	30	132	2.9	30	206	0.4	29	180	2.2	30	5	0.2	30	52	1.4	28	58	1.5	29	222	0.8	30	119	1.0	30	341	1.9	30	87	1.7	30	125	3.2
500-------------	30	139	3.7	--	---	---	29	215	1.1	--	---	---	--	---	---	30	76	2.8	26	119	1.9	29	227	2.0	29	132	3.7	30	336	2.7	30	106	3.7	--	---	---
1,000-----------	30	188	3.9	--	---	---	29	231	2.1	--	---	---	--	---	---	30	87	2.3	26	154	1.1	29	248	5.1	29	138	2.7	30	331	3.8	30	104	3.7	30	137	4.9
1,500-----------	30	222	4.6	29	150	4.9	29	234	3.7	29	191	2.1	28	291	.1	30	62	1.1	26	257	1.1	29	263	7.4	30	138	1.7	30	317	2.3	30	104	4.0	30	150	7.2
2,000-----------	30	242	4.6	29	141	4.2	29	228	4.9	29	236	1.0	28	243	3.2	30	31	1.1	26	256	2.3	29	267	8.3	29	124	1.0	30	281	1.4	29	102	4.0	30	152	5.8
2,500-----------	30	259	4.6	29	136	2.8	29	232	5.2	29	156	1.8	28	233	4.8	30	345	1.4	27	266	2.5	29	277	8.8	29	160	.3	30	258	1.9	29	103	3.9	30	136	3.2
3,000-----------	30	265	5.0	30	127	1.8	29	224	5.3	29	128	2.0	29	235	5.2	30	325	1.9	27	270	2.0	28	284	10.8	29	268	.7	30	274	2.4	29	89	4.0	30	115	1.5
4,000-----------	30	284	5.3	30	51	2.3	29	234	6.7	29	108	2.7	29	229	5.3	29	298	2.3	28	255	2.7	28	281	12.4	29	294	1.2	30	291	4.9	29	89	3.4	30	27	3.1
5,000-----------	30	285	7.0	30	38	1.7	28	225	7.3	29	128	1.9	30	246	6.1	29	282	3.4	28	274	4.2	28	281	16.2	29	289	2.9	29	292	7.2	29	82	2.7	30	11	3.8
6,000-----------	30	273	8.4	28	308	1.2	28	225	7.6	28	187	2.4	28	259	8.1	28	279	5.4	28	272	6.1	27	282	18.7	29	289	4.3	27	278	8.1	30	74	2.2	30	329	2.7
8,000-----------	30	269	11.5	28	260	5.6	24	240	8.7	26	231	3.7	25	263	10.7	29	269	11.2	27	268	9.8	27	283	23.5	27	280	6.9	23	285	9.7	30	46	2.5	30	284	5.2
10,000----------	30	271	16.1	24	257	7.5	20	230	12.3	22	244	6.9	21	286	13.8	29	262	16.6	27	266	16.0	27	283	28.4	27	268	14.6	19	261	15.1	30	13	3.3	29	265	8.7
12,000----------	30	275	21.0	21	254	10.4	22	246	11.3	19	250	8.3	13	291	14.7	29	266	20.2	25	268	17.5	26	281	29.2	26	270	21.0	16	256	20.2	30	357	5.8	29	266	12.6
14,000----------	30	277	19.9	19	272	8.7	20	235	10.3	18	254	6.8	10	291	11.4	23	267	13.7	24	267	15.1	25	279	23.4	26	282	17.7	10	257	12.8	29	32	5.0	28	269	11.7
16,000----------	25	275	12.8	16	319	1.8	18	241	9.6							22	270	8.3	21	279	9.1	21	284	18.7	21	281	9.7				28	73	4.7	26	265	5.8
18,000----------	24	274	5.5	16	82	2.7	13	249	8.2							19	286	2.6	21	38	1.1	17	284	9.4	20	300	2.0				25	97	8.5	22	137	.8
20,000----------	22	212	.5	17	83	8.4	10	240	6.1							14	97	2.2	19	34	2.7	15	286	7.1	17	80	4.6				23	79	9.4	18	83	6.3
22,000----------	19	61	1.1	15	94	11.5													17	84	6.1	14	278	6.0	15	80	6.5				20	84	14.2	18	96	8.5
24,000----------	18	74	2.1	13	96	11.0													14	84	7.7	11	269	4.4	11	96	8.4				17	90	19.0	16	83	9.1
26,000----------	11	80	5.1	12	88	11.2													11	96	10.1										11	92	19.8			

	Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)			Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul, Is. Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)		
Surface---------	30	231	0.6	29	122	0.8	30	161	1.5	30	301	3.1	30	146	3.1	30	17	1.6	30	154	0.6	23	250	2.8	30	141	3.0	30	118	1.9	30	292	2.5	28	307	0.9
500-------------	30	277	2.9	26	147	1.8	28	190	2.8	29	295	4.6	30	151	4.9	--	---	---	30	173	1.8	22	254	4.7	30	127	7.2	30	101	6.2	30	330	3.2	28	284	2.0
1,000-----------	30	279	3.9	26	178	3.1	28	179	3.5	29	297	3.2	30	168	8.1	30	17	1.7	29	230	4.2	22	259	5.4	30	128	6.8	30	99	6.2	30	326	3.8	28	273	4.8
1,500-----------	30	272	4.5	26	200	2.7	28	193	4.2	29	299	1.8	30	184	7.3	30	25	1.0	28	251	5.7	21	267	5.4	30	111	5.4	30	99	5.6	30	359	2.0	28	284	7.2
2,000-----------	30	263	6.2	26	215	2.8	28	203	4.7	29	295	1.1	30	199	6.0	30	257	2.1	27	268	6.9	21	269	5.2	30	97	3.8	30	97	5.3	30	352	.7	28	287	7.6
2,500-----------	30	261	7.3	29	227	1.9	29	201	5.5	29	269	1.4	30	207	4.1	30	264	4.5	27	283	8.3	21	278	4.8	30	93	3.0	30	99	4.9	30	248	1.9	28	285	8.7
3,000-----------	29	267	8.3	30	274	1.6	28	228	4.9	29	267	2.4	30	212	2.6	30	276	6.9	27	285	9.1	21	263	5.8	30	119	3.0	29	90	4.3	30	247	2.4	28	289	10.5
4,000-----------	28	269	10.3	30	297	3.0	27	223	5.3	29	266	3.3	30	291	1.7	30	279	10.7	26	285	11.1	20	265	7.1	30	149	1.6	29	87	2.4	30	241	2.4	28	287	13.1
5,000-----------	28	273	12.3	30	282	4.1	27	237	6.0	29	272	3.5	30	294	3.8	29	271	13.1	27	280	12.4	17	270	7.7	29	191	.8	29	96	2.3	30	243	2.7	28	291	16.1
6,000-----------	26	271	13.5	30	287	5.1	28	241	6.6	28	284	4.0	30	289	5.5	29	273	13.6	27	275	14.7	16	268	8.8	29	269	1.3	29	75	1.7	30	275	4.6	27	283	21.2
8,000-----------	23	266	16.9	29	276	8.4	27	253	9.6	28	285	7.9	30	278	8.5	29	270	17.4	27	274	16.1	13	240	10.4	29	251	4.8	30	100	1.2	28	264	8.1	26	280	25.0
10,000----------	19	267	21.3	30	267	17.3	25	249	13.8	29	272	13.9	29	275	12.5	29	272	18.4	20	280	16.1	12	265	15.8	28	256	7.9	29	191	.7	25	254	12.3	26	276	29.6
12,000----------				29	268	19.9	22	241	11.7	29	263	17.8	30	267	16.1	29	265	24.5	15	292	17.1	10	264	14.7	28	264	10.2	29	258	3.4	25	251	14.8	26	281	32.7
14,000----------				26	274	17.8	19	255	9.5	29	266	17.5	28	276	17.6	27	261	22.7	12	292	15.2				28	270	8.3	28	260	1.3	19	255	12.4	26	277	27.4
16,000----------				26	274	9.9	18	244	8.8	29	260	9.3	26	277	7.9				10	296	10.8				27	293	3.3	23	55	3.1				21	278	20.8
18,000----------				24	256	1.8	17	245	8.5	25	276	3.2	26	243	2.2				10	308	9.2				22	94	3.5	16	94	7.5				19	273	14.9
20,000----------				23	134	1.2	16	234	6.9	23	51	1.3	26	98	3.3				10	300	7.2				22	81	10.1	16	92	9.9				17	277	8.9
22,000----------				21	72	4.6	10	235	7.9	22	81	2.7	22	98	6.1				10	319	3.9				19	94	14.9	15	93	12.9				13	272	6.7
24,000----------				17	97	4.7				18	83	2.6	13	80	5.1				10	270	2.8				14	87	14.8	14	86	16.0				10	272	8.8
26,000----------													10	79	6.9																					

	Spokane, Wash. (726 m.)			Tatoosh Is. Wash. (31 m.)			Washington, D. C. (88 m.)			Yakutat, Alaska (12 m.)			Yuma Ariz. (105 m.)		
Surface---------	30	191	1.1	30	239	0.8	30	126	1.1	30	102	1.7	27	169	1.4
500-------------	--	---	---	28	276	1.7	30	131	2.0	30	138	4.0	27	236	3.1
1,000-----------	30	232	2.4	28	271	1.7	30	248	1.5	29	140	4.0	27	214	1.9
1,500-----------	30	265	3.2	28	292	2.0	30	268	2.7	27	146	3.2	27	179	1.1
2,000-----------	30	272	3.1	28	285	2.5	30	279	3.7	25	174	2.5	27	163	.7
2,500-----------	30	277	3.8	28	274	3.3	30	284	4.3	25	194	2.4	27	180	.8
3,000-----------	30	276	3.5	29	286	4.7	30	279	4.9	25	215	3.6	27	188	1.9
4,000-----------	30	268	6.8	29	288	7.6	30	284	5.4	25	236	4.6	27	209	3.1
5,000-----------	30	276	8.2	30	282	9.3	30	282	6.9	25	239	6.6	27	221	2.2
6,000-----------	30	278	9.5	30	284	11.1	30	282	9.0	25	233	8.8	26	232	3.6
8,000-----------	30	272	10.9	28	270	12.5	30	267	14.5	25	247	11.3	26	246	6.8
10,000----------	28	278	13.8	26	278	12.5	29	263	20.5	23	249	15.9	24	245	10.4
12,000----------	27	285	13.9	24	274	15.7	29	264	24.8	17	265	16.3	23	244	12.4
14,000----------	27	277	12.6	23	273	12.6	29	273	23.5	12	270	13.4	15	251	10.9
16,000----------	26	278	10.3	22	273	10.7	21	277	13.6						
18,000----------	25	285	6.4	21	279	6.9	18	272	6.1						
20,000----------	26	296	3.4	19	283	3.0	15	264	2.0						
22,000----------	24	321	1.9	16	340	2.1	11	97	1.8						
24,000----------	20	299	2.5	12	21	2.6									
26,000----------	19	296	3.6												
28,000----------	10	292	2.3												

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for May 1955

Altitude (meters) m.s.l.	Denver, Colo. (1,661 m.)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul, Ill. (227 m.)			Rome, N. Y. (146 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed
Surface----------	31	170	1.4	31	153	1.7	31	62	0.6	31	124	0.8	31	302	0.3
500--------------	--	---	---	30	159	6.6	--	---	---	31	167	1.3	31	283	3.2
1,000------------	--	---	---	30	175	7.6	--	---	---	31	206	2.0	31	278	4.6
1,500------------	--	---	---	30	196	6.4	27	108	1.5	31	229	2.8	31	290	6.6
2,000------------	31	195	2.0	30	216	5.9	28	235	2.2	31	238	2.9	31	284	8.2
2,500------------	31	232	3.0	30	222	5.4	28	237	3.0	31	253	4.1	31	287	9.0
3,000------------	31	251	4.1	30	245	5.7	28	238	4.0	31	265	4.5	31	287	9.2
4,000------------	31	255	5.9	30	260	6.6	27	247	5.7	31	281	5.9	31	288	12.0
5,000------------	31	255	6.3	30	264	8.6	29	251	7.8	31	284	7.6	31	293	13.3
6,000------------	31	255	7.9	30	252	9.5	29	248	8.6	31	282	9.3	31	293	14.6
8,000------------	30	249	11.2	30	260	12.8	30	250	11.7	31	284	14.0	31	298	19.2
10,000-----------	30	236	15.8	29	265	19.4	30	257	14.3	30	280	18.4	31	292	23.9
12,000-----------	27	234	15.5	29	267	22.1	28	253	11.7	30	274	22.0	31	286	24.7
14,000-----------	26	246	12.0	28	271	20.4	28	250	9.8	30	278	16.6	31	289	18.6
16,000-----------	23	245	9.3	21	277	13.5	26	253	7.9	27	292	8.7	30	295	10.9
18,000-----------	19	252	3.5	17	264	3.9	21	259	4.8	26	291	6.4	28	297	7.3
20,000-----------	15	266	.7	14	67	1.4	14	273	2.2	24	313	2.9	24	305	2.3
22,000-----------	12	138	1.8	12	104	3.5				22	14	1.8	23	344	1.3
24,000-----------	11	63	1.1	12	96	5.4				19	14	.5	17	50	.6
26,000-----------				11	76	5.0				11	240	1.9			
28,000-----------				10	74	3.7									

* June data for the above Air Force stations will be included in the October issue of this publication.

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°,E = 90°,S = 180°,W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. SEPTEMBER 1955

Date	Sun's zenith distance								
	A. M.				0.0°	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	5.0	4.0	3.0	2.0	Noon	2.0	3.0	4.0	5.0
Sept.									
1------	0.85	0.95	1.06	1.20	1.32	1.16	1.02	0.93	0.82
2------	.83	.93	1.03	1.18	1.34	1.18	1.07	.96	.86
3------	.75	.87	1.00	1.14	1.27	1.18	1.01	.93	.82
4------	.67	.79	.93	1.09	1.29	-	----	----	----
5------	.71	.82	.95	1.09	1.24	1.06	.90	.76	.65
6------	----	----	----	- -	1.25	----			
7------	----	.77	.89	1.04	1.22	----	---	----	----
8------	.67	.78	.90	1.05	1.24	1.10	.93	.77	.68
9------	.61	.71	.83	1.01	1.19	---	---	-	---
10-----	.55	.65	.77	.96	1.16	----	.77	--	---
11-----	.57	.69	----	---	----	1.06	.88	.74	.60
12-----	.60	.72	.86	1.03	1.22				--
13-----	----	----	----	----	1.22	1.02	.83	.70	----
14-----	.61	.73	.84	.98	1.21	1.10	.96	.83	----
15C----	----	----	----	----	----	-	----	---	----
16-----	----	.74	.86	----	----	---	----	----	----
17C----	----	----	----	----	----	----	----	----	----
18-----	.84	.94	1.05	1.18	1.35	----			
19-----	----	.88	1.00	1.15	1.32	----			
20-----	.82	.90	1.03	1.17	1.35	1.24	1.14	1.00	.94
21-----	1.00	1.08	1.18	1.29	1.32	----	----	----	
22-----	----	----	----	----	1.35	1.23	1.11	1.00	.94
23-----	----	----	----	----	1.34	----	----	----	---
24C----	----	----	----	----	---	----	----	----	----
25-----	.74	.61	.92	1.08	----	----	----	----	----
26-----	.84	.98	1.06	1.17	1.33	1.17	1.03	.91	.84
27-----	.88	.99	1.09	1.23	1.37	1.25	1.08	.94	.86
28-----	.85	.95	1.08	1.20	1.34	1.16	.98	.86	---
29-----	.93	1.03	1.13	1.25	1.39	1.29	1.15	1.05	.99
30-----	.96	1.04	1.15	1.27	1.39	1.29	1.16	1.06	.96
Aver-ages	.77	.85	.98	1.13	1.29	1.17	1.00	.90	.83
	WASHINGTON, D. C. (WBCO)								
	Air mass								
	4.96	3.97	2.98	1.99	Noon	1.99	2.98	3.97	4.96
Sept.									
14-----	----	0.88	----	----	----	----	--	----	-
21-----	----	----	1.14	1.31	1.43	1.26	----	----	---

* Extrapolated
C Cloudy
H Haze
No data for Lincoln, Nebraska and Madison, Wisconsin for September 1955.

Date	Sun's zenith distance								
	A M				0.0°	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	BLUE HILL, MASS								
	Air mass								
	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
Sept.									
5---	0.31	0.39	0.53	0.86	-	----	----	----	----
6---	.97	1.08	1.18	----	----	----	----	----	--
7---	--	----	----	----	----	1.22	1.12	0.96	0.86
8-----	-	----	----	-	----	1.27	----	----	-
9	----	----	----	1.20	-	--	-	--	--
12---	----	----	----	----	----	1.26	1.05	.90	.77
13----	----	----	----	1.27	----	----	----	----	-
21---	1.01	1.11	1.24	1.38	--	----	1.15	1.05	.95
22---	1.03	1.10	1.23	----	--	--	--	1.05	--
23---	.99	1.09	1.20	1.30	----	1.27	1.13	----	
26---	1.00	1.10	1.20	1.35	----	1.35	1.21	1.10	-
27----	1.02	1.13	1.23	1.39	----	----	----	----	
29----	.65	----	1.00	1.18	----	1.25	1.11	.93	.73
Aver-ages	.87	1.00	1.10	1.24	--	1.27	1.13	1.00	.83
	TABLE MOUNTAIN, CALIF.								
	Air mass								
	3.76	3.01	2.26	1.51	*0.75	1.51	2.26	3.01	3.76
Sept.									
1-----	----	----	----	1.31	----	----	----	-	--
2-----	----	----	----	1.38	----	----	----	-	---
3-----	----	----	---	1.39	----	----	-	----	---
4-----	0.97	1.06	1.18	1.33	----	----	-	---	----
5H---	.99	1.08	1.20	1.33	----	----	----	-	----
10H--	----	---	----	1.28	----	----	----	----	---
12H---	---	--	---	1.35	---	--	----	----	----
13H--	--	--	-	1.32	----	----	- -		----
14----	----	----	- --	1.37	---		- -	----	-
15H---	---	----	----	1.39	----	----	- --	---	---
16----	----	----	----	1.44	--	- -	----	- --	----
17----	1.17	1.24	1.34	1.47	----	----	-	----	----
18 --	1.14	1.23	1.33	1.45	----	----	----	----	----
19----	1.08	1.18	1.28	1.42	---	----	---	----	----
20----	1.10	1.19	1.29	1.42		-	- --	-	----
21----		----	----	1.43	-	----	--	--	----
22----	---	----	--	1.43	----	----	----	--	---
25	--	---	----	1.39	----	----	-	----	- -
27-	----	----	---	1.42	----	----	-	----	----
28----	---	----	----	1.54	----	----	----	----	----
29----	----	----	-	1.53	----	----	----	----	--
30H--	1.22	1.31	1.41	1.52	---		----		-
Aver-ages	1.10	1.18	1.29	1.40	---	-		----	----

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of Tables 30 and 31 and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the Monthly Weather Review, vol. 72, No. 1, January 1944, p. 43. A list of pyrheliometric stations is given on page 45 of that issue. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

SEPTEMBER 1955

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	95	100	104	87	90	89	91	94	102	75	78	85	97	92	106	91	85	88	90	55	76	76	74	78
Date	24	25	26	27	28	29	30																	
Langleys	15	90	73	75	53	73	75	65																

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	229	122	258	316	235	308	308	254	255	79	109	328	210	137	295	202	152	214	156	75	---	---	---	(149)
Date	24	25	26	27	28	29	30																	
Langleys	---		--	---	---	-	---																	

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	284	258	379	392	389	417	317	348	302	84	266	459	264	198	330	272	370	391	370	76	492	490	466	379
Date	24	25	26	27	28	29	30																	
Langleys	16	354	498	464	101	492	103	290																

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	350	405	349	353	472	459	292	383	241	109	477	471	375	277	384	334	459	399	489	118	---	---	---	(366)
Date	24	25	26	27	28	29	30																	
Langleys	---	---	---	---	---	---	---	---																

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	160	169	---	88	122	88	129	(138)	188	143	98	82	197	213	231	165	141	162	149	118	59	69	77	111
Date	24	25	26	27	28	29	30																	
Langleys	28	174	54	76	109	77	161	97																

Note: Langley is the unit used to denote one gram calorie per square centimeter.

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

SEPTEMBER 1955

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Langleys. . .	*123	*27	*0	113	*128	%	206	204	229	*181	*260	%	%	283	297	256

Date.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	202	*178	*0	204	255	**111	56	*149	*17	227	182	157	217	173		164

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total out going radiation of all wave lengths.

* Estimated values owing to occurrence of rain during period. While rain is falling, radiation is assumed to be zero

** Alfalfa mowed

% Radiometer inoperative

These data are of an experimental nature and are published as received from the North Carolina State College at Raleigh. The instrument with which they were measured has not been checked by the Weather Bureau

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys

1955	Aklavik, Mackenzie	Albuquerque, N.Mex.	Annette, Alaska	Astoria, Oreg.	Apalachicola, Fla.	Atlanta, Ga.	Barrow, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Dodge City, Kans.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Ft. Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Grand Lake, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.
Sept. 3-----	209	684	35	565	415	320	78	557	384	581	---	263	667	618	218	621	484	712	565	521	---	675	618	365	626	611	246	568	671	681	573	93	231	258	469	709	588	619
Sept. 4-----	(108)	672	153	551	560	---	184	575	379	566	---	353	682	580	183	567	574	---	518	431	510	661	637	343	472	582	512	570	651	669	565	188	217	220	497	677	492	460
Sept. 5-----	353	668	173	511	586	238	162	551	496	543	---	141	676	390	---	526	556	639	(614)	542	535	659	563	221	544	582	611	558	638	603	550	315	220	186	514	698	322	170
Sept. 6-----	175	659	43	359	508	301	181	573	551	502	---	239	648	---	225	657	568	653	(579)	481	494	654	533	154	568	572	583	556	626	461	513	376	369	125	552	683	594	211
Sept. 7-----	267	637	185	144	455	586	215	526	518	506	---	410	593	---	404	651	551	646	598	---	351	658	---	155	584	519	552	530	620	431	398	486	613	---	517	625	551	463
Sept. 8-----	341	655	108	184	584	547	180	267	563	479	---	403	659	---	587	621	523	(639)	186	600	431	638	579	---	584	589	418	299	555	601	422	446	584	627	484	663	603	560
Sept. 9-----	310	628	186	212	514	489	302	392	124	512	441	293	640	---	461	516	514	602	452	584	515	640	631	(131)	555	596	576	225	587	422	96	381	513	705	472	677	394	440
Averages-----	(252)	656	127	361	517	413	186	492	474	527	---	300	652	---	346	594	539	(648)	(545)	527	473	655	593	(228)	562	579	500	472	621	553	445	327	392	354	501	676	506	418
Sept. 10-----	84	633	215	280	358	219	92	572	439	529	341	---	674	69	164	437	277	583	394	530	527	615	626	250	(521)	588	516	611	596	653	436	378	212	---	372	686	457	521
Sept. 11-----	313	614	217	392	329	472	139	565	154	504	166	364	669	272	235	149	552	382	552	282	471	551	629	129	(531)	577	465	554	622	631	468	501	424	499	422	666	243	498
Sept. 12----	288	626	78	474	525	343	(75)	442	434	525	386	225	614	187	160	658	579	610	548	528	127	624	606	107	515	569	216	398	498	587	416	411	401	455	540	--	453	395
Sept. 13-----	162	626	93	110	472	193	(115)	436	545	486	501	426	686	397	132	601	521	(574)	406	580	408	626	595	228	557	574	494	536	580	536	441	246	209	199	514	637	508	452
Sept. 14-----	68	---	134	202	528	320	(203)	497	345	99	290	508	707	512	148	429	497	581	300	513	284	618	571	155	579	563	534	440	387	611	322	558	161	172	353	669	418	236
Sept. 15-----	(215)	660	229	77	395	581	91	292	285	468	305	638	---	33	---	491	505	615	453	317	63	616	617	202	457	---	334	391	498	567	447	521	612	568	460	667	403	435
Sept. 16-----	138	603	297	365	124	545	129	468	115	349	377	586	619	---	379	518	492	552	453	397	188	437	581	138	527	581	347	506	572	623	466	520	565	617	476	668	422	572
Averages-----	(181)	617	180	271	390	382	(121)	466	374	423	338	458	662	250	203	469	489	(557)	444	450	295	584	603	173	(527)	575	415	491	536	601	428	448	370	418	448	666	415	448
Sept. 17-----	127	377	62	477	594	494	112	291	431	417	404	542	666	308	285	498	543	577	472	---	169	569	420	171	544	549	578	489	266	242	186	180	453	336	474	652	467	524
Sept. 18-----	269	575	43	482	588	212	127	432	428	517	404	202	684	430	124	521	518	410	468	461	396	596	363	262	506	561	506	259	523	504	477	344	445	105	479	614	474	540
Sept. 19-----	258	522	439	268	597	343	122	473	402	218	405	434	646	40	---	550	339	607	438	452	189	563	440	146	545	548	544	496	346	406	500	455	327	134	474	642	446	538
Sept. 20-----	197	623	127	222	373	422	69	52	121	405	147	391	---	42	269	545	283	582	495	165	98	609	631	227	535	547	532	204	592	385	92	399	400	427	326	650	409	546
Sept. 21-----	189	585	130	161	512	482	72	141	522	527	153	581	---	261	467	403	355	586	230	533	112	575	618	241	444	543	502	109	592	565	431	445	550	550	389	642	481	517
Sept. 22-----	245	618	252	333	556	462	104	482	500	513	475	606	---	288	476	322	246	539	355	537	159	590	611	157	364	533	456	206	593	620	188	273	536	454	278	629	315	345
Sept. 23-----	228	616	141	426	544	359	73	414	495	404	470	502	695	493	419	65	154	75	30	538	91	588	507	88	234	522	515	354	585	602	248	186	465	441	60	628	132	213
Averages-----	216	559	255	381	514	396	97	327	414	429	394	465	673	266	340	415	348	482	355	448	173	584	513	185	453	543	519	302	499	475	303	326	454	349	354	637	389	460
Sept. 24-----	58	291	36	448	573	310	85	278	28	467	19	483	693	146	426	322	490	62	352	75	390	460	267	70	134	510	531	366	482	452	295	136	416	501	397	---	54	488
Sept. 25-----	111	598	176	460	541	234	134	186	397	278	---	---	573	280	439	377	330	61	453	339	345	(565)	271	269	352	522	608	455	533	531	107	74	320	325	452	603	329	430
Sept. 26-----	94	599	302	171	535	67	159	70	491	492	---	507	671	476	147	289	129	131	189	520	247	395	634	242	471	511	382	441	561	416	137	234	109	558	361	605	478	542
Sept. 27-----	226	607	369	129	512	133	134	443	469	487	---	398	509	447	192	189	259	574	60	515	268	338	634	142	(529)	(506)	297	360	562	572	266	254	302	611	54	607	342	398
Sept. 28-----	204	585	82	312	458	251	92	449	168	470	150	---	---	102	---	469	481	270	396	---	170	527	615	131	515	(503)	374	316	554	574	(194)	259	343	319	390	612	143	413
Sept. 29-----	(205)	603	167	255	351	316	120	194	462	477	435	481	671	457	348	435	278	566	266	496	224	552	621	212	541	506	449	163	550	564	143	297	369	577	104	604	466	444
Sept. 30-----	(192)	607	294	405	562	340	124	348	170	465	159	470	633	221	418	351	494	519	273	131	144	586	---	95	510	512	541	398	---	559	253	181	405	580	427	607	104	503
Averages-----	(156)	556	204	311	504	236	121	281	312	448	191	468	625	304	329	347	352	312	284	346	255	(489)	507	166	(436)	(510)	455	357	540	524	(285)	205	324	496	312	606	274	460

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

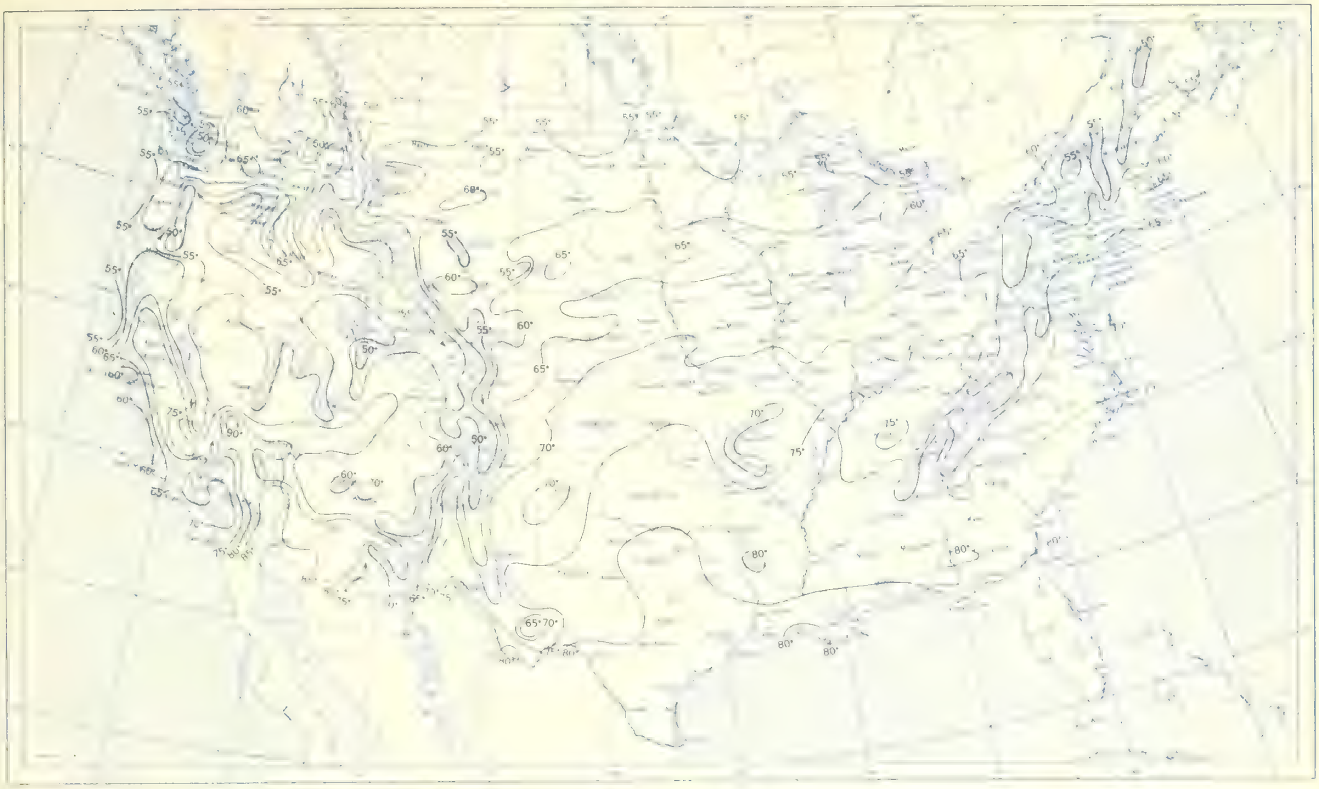
SOLAR RADIATION DATA

Table 33 -Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued

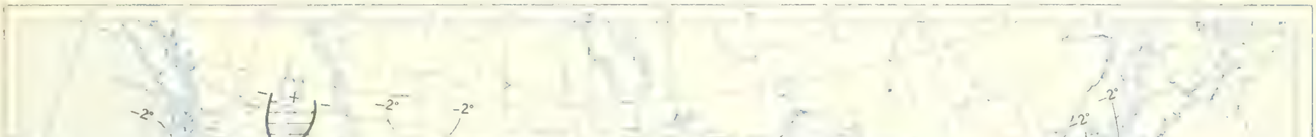
1955	Lander, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (WBAS)	Seattle, Wash. (U. of W.)	Spokane, Wash.	State College, Pa.	Tampa, Fla.	Toronto, Ontario	Tucson, Ariz. (U. of A.)	Upton, N. Y.	Wake Island Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
Sept. 3-----	644	633	555	540	589	585	554	560	593	595	557	499	310	531	542	674	534	612	527	636	589	654	(648)	566	417	488	231	542	448	551	305	545	573	641	422	655	186	533
Sept. 4-----	629	634	561	554	614	603	549	541	625	---	---	399	501	383	546	664	542	615	536	636	578	639	(659)	518	499	392	---	537	451	547	330	621	495	628	473	624	423	567
Sept. 5-----	590	626	600	527	613	612	559	375	609	602	501	510	507	---	368	640	516	602	481	634	590	536	(637)	613	480	316	383	(506)	434	536	402	517	348	612	463	649	372	526
Sept. 6-----	559	620	588	580	585	582	522	321	391	---	543	412	463	579	550	635	570	593	368	587	(600)	388	(635)	486	402	448	338	335	243	327	401	408	567	---	399	666	478	416
Sept. 7-----	467	583	573	461	560	568	560	446	261	---	529	475	552	499	483	(642)	561	530	358	606	(550)	289	(587)	551	491	517	---	112	71	326	545	332	596	601	482	610	500	265
Sept. 8-----	529	587	485	512	517	473	470	510	334	594	459	581	600	522	529	627	547	481	222	563	507	385	(628)	466	618	438	564	154	120	430	537	384	419	616	605	661	570	418
Sept. 9-----	544	599	507	500	539	514	450	388	377	572	510	547	276	620	504	623	552	544	479	561	315	594	(627)	140	558	458	345	156	115	510	374	424	334	610	407	269	195	205
Averages-----	566	612	553	525	574	562	523	419	456	591	517	489	458	522	503	(644)	546	568	424	603	(533)	498	(632)	477	495	437	372	(335)	269	461	413	461	476	618	464	591	389	419
Sept. 10-----	580	589	305	418	516	537	212	380	574	570	514	504	464	577	422	616	200	151	464	577	578	564	(548)	269	481	398	422	167	119	494	446	143	463	598	430	653	436	553
Sept. 11-----	553	598	609	375	552	562	535	---	645	476	369	220	142	346	108	617	217	593	502	586	566	483	(580)	388	127	193	207	445	274	471	343	578	288	589	---	666	459	439
Sept. 12-----	587	583	581	536	568	569	518	530	609	537	518	468	576	519	412	609	341	498	468	602	406	472	(581)	379	568	438	557	437	349	506	524	636	431	501	---	608	577	510
Sept. 13-----	584	575	185	549	584	572	238	90	558	---	431	548	534	526	542	601	534	531	164	597	405	502	(627)	258	589	471	498	(65)	57	373	539	533	410	561	(554)	564	493	318
Sept. 14-----	545	575	308	573	580	555	494	334	620	---	528	522	361	567	335	597	528	542	260	603	527	439	(604)	272	312	430	445	181	207	157	451	601	245	578	---	662	548	407
Sept. 15-----	612	593	480	414	550	541	347	218	543	---	518	338	404	546	394	596	259	411	232	588	445	509	(570)	259	442	272	487	(165)	113	263	396	596	405	562	437	674	504	169
Sept. 16-----	525	596	502	455	523	543	457	212	569	---	510	392	457	573	456	594	499	540	318	600	63	574	(611)	413	483	428	383	(201)	151	181	456	531	415	389	---	663	427	452
Averages-----	569	587	424	474	553	554	400	294	588	---	484	427	419	522	381	604	368	467	344	593	427	506	(589)	320	429	376	428	(237)	181	349	451	517	380	540	---	641	492	407
Sept. 17-----	413	580	499	471	382	368	442	399	387	---	536	448	332	587	421	602	490	425	456	518	418	530	(614)	225	---	383	362	377	392	503	302	478	419	590	(370)	167	111	327
Sept. 18-----	474	612	507	404	543	485	454	(522)	440	556	506	432	389	557	412	590	453	534	473	572	315	511	613	462	366	270	324	447	388	475	393	404	418	486	389	437	313	162
Sept. 19-----	373	589	437	468	487	459	120	498	372	---	---	360	255	490	363	630	367	288	449	540	493	532	(546)	272	262	398	105	399	293	474	321	455	440	575	269	428	103	285
Sept. 20-----	414	591	521	326	561	545	477	482	215	---	480	127	275	538	411	646	87	140	431	552	325	401	---	---	153	297	320	130	87	281	451	330	398	593	145	579	472	178
Sept. 21-----	445	588	360	429	502	476	193	507	588	---	---	538	553	495	525	616	478	526	383	501	137	499	435	239	580	462	520	317	280	389	457	532	459	582	554	653	536	52
Sept. 22-----	572	580	202	293	309	368	374	469	530	---	452	513	414	452	516	611	531	307	392	413	303	447	119	191	418	415	150	322	239	444	183	374	349	581	432	509	82	233
Sept. 23-----	545	562	262	187	123	164	264	417	568	364	248	510	265	444	447	601	512	361	454	315	412	412	139	309	414	388	215	408	355	461	---	446	167	574	355	615	59	115
Averages-----	462	586	398	368	415	409	332	(471)	443	---	444	419	355	509	442	614	417	369	434	487	343	476	(411)	283	365	373	285	343	291	433	301	431	379	569	(359)	484	239	193
Sept. 24-----	68	542	522	210	433	397	424	479	400	---	74	30	47	86	98	599	34	75	438	404	250	337	559	186	32	45	75	424	351	457	90	577	242	540	---	638	77	187
Sept. 25-----	210	547	388	324	358	(428)	415	501	520	246	445	370	470	361	423	594	332	92	451	524	200	432	423	483	397	321	---	(419)	311	455	412	476	429	572	---	533	456	431
Sept. 26-----	528	579	212	423	319	337	118	478	487	---	330	508	517	321	471	591	497	335	346	432	68	323	453	278	538	420	---	92	71	358	356	473	375	576	---	624	453	162
Sept. 27-----	444	589	162	406	302	395	309	426	565	---	435	495	428	173	---	603	480	507	61	512	178	410	295	42	492	353	411	138	130	58	246	574	163	568	---	599	387	381
Sept. 28-----	386	594	474	292	339	396	444	470	469	415	281	203	352	168	---	578	135	506	308	460	406	535	454	(392)	263	182	375	244	258	150	320	539	205	551	---	---	436	340
Sept. 29-----	537	490	112	396	355	473	246	450	601	---	319	451	427	294	372	584	---	401	385	546	152	509	548	167	513	383	463	290	203	342	307	503	393	554	424	571	461	215
Sept. 30-----	535	552	454	31	481	515	341	446	560	---	186	113	190	165	71	590	96	417	396	564	401	434	534	220	375	45	252	373	330	338	107	523	279	558	---	652	83	244
Averages-----	387	556	332	298	370	(427)	328	464	515	---	296	310	347	224	287	591	262	333	341	492	236	426	466	(252)	373	250	315	(283)	236	308	263	524	298	560	---	603	336	280

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Chart I. A. Average Temperature (°F.) at Surface, September 1955.

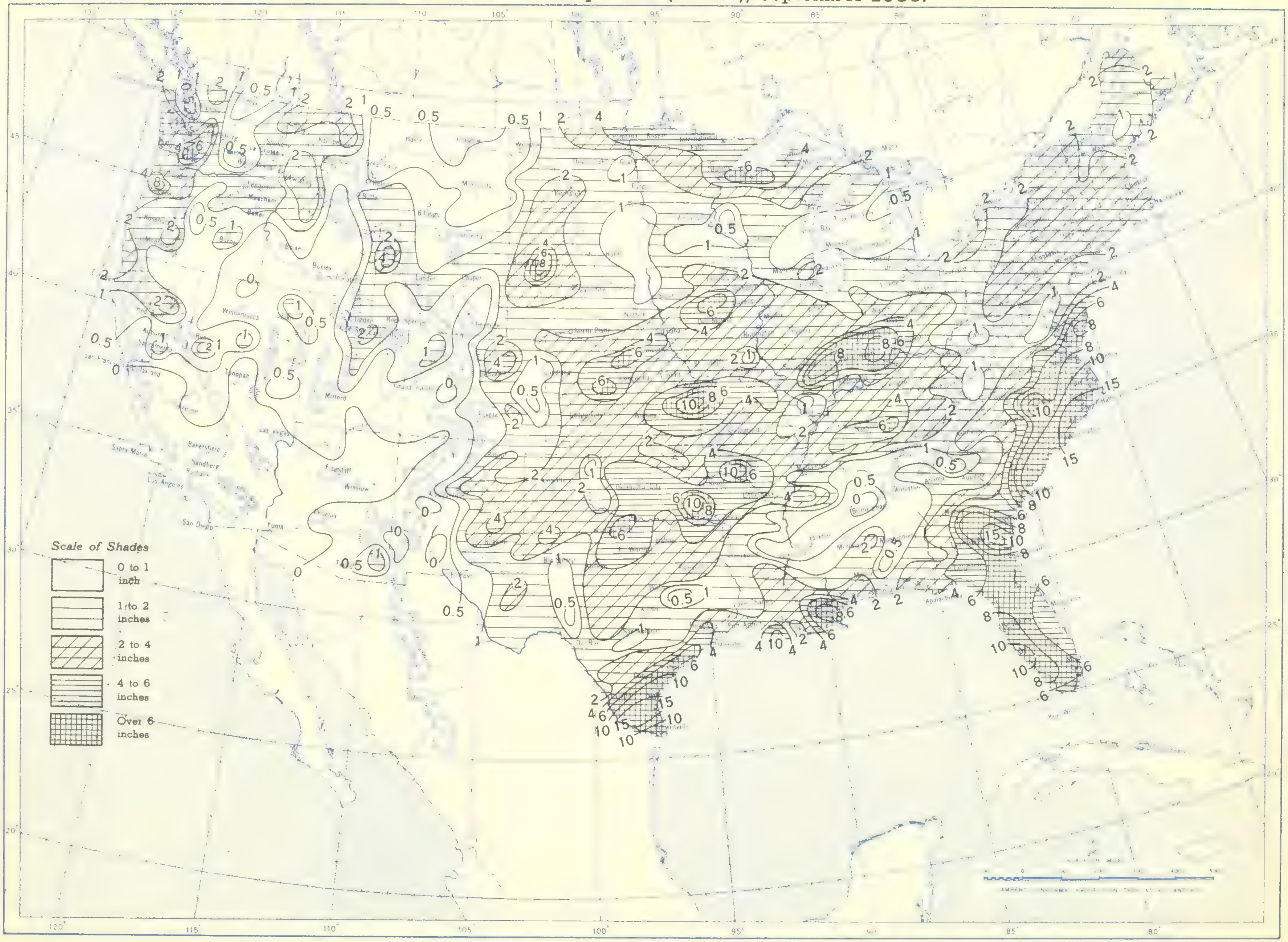


B. Departure of Average Temperature from Normal (°F.), September 1955.



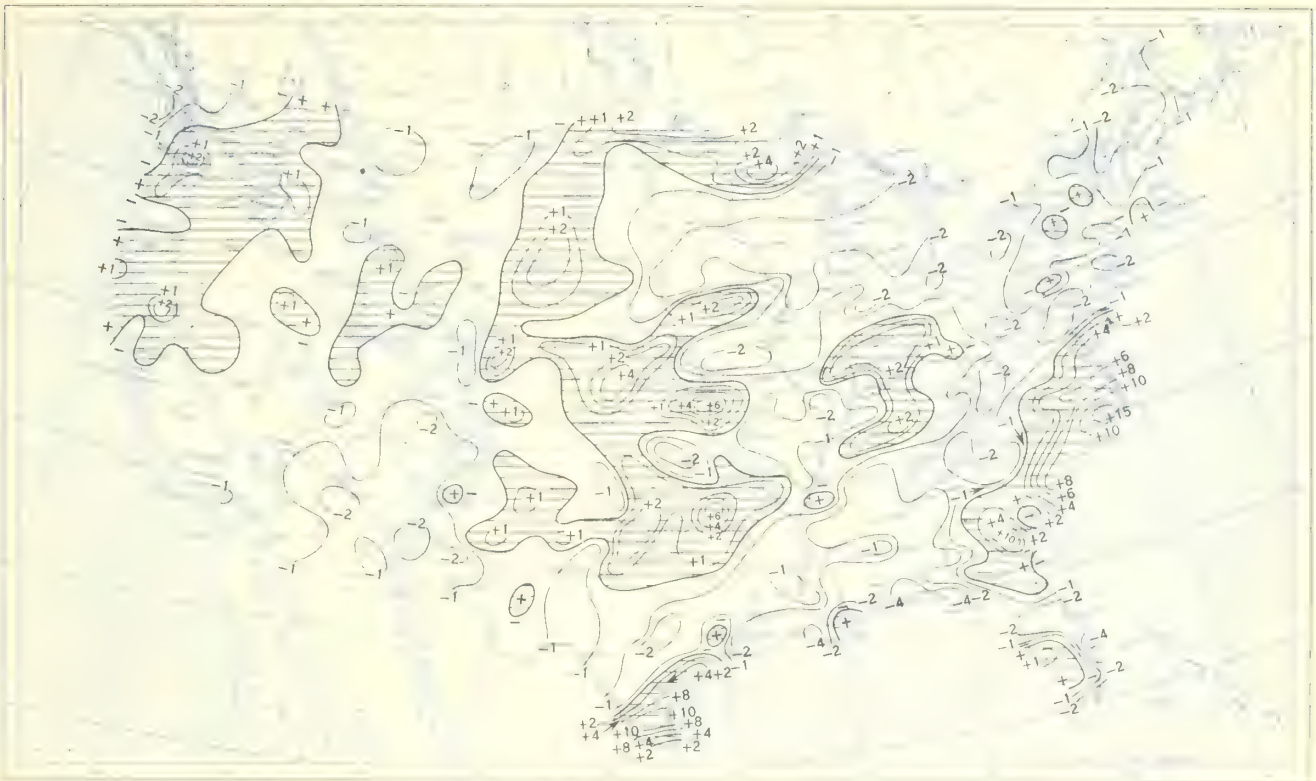
A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), September 1955.

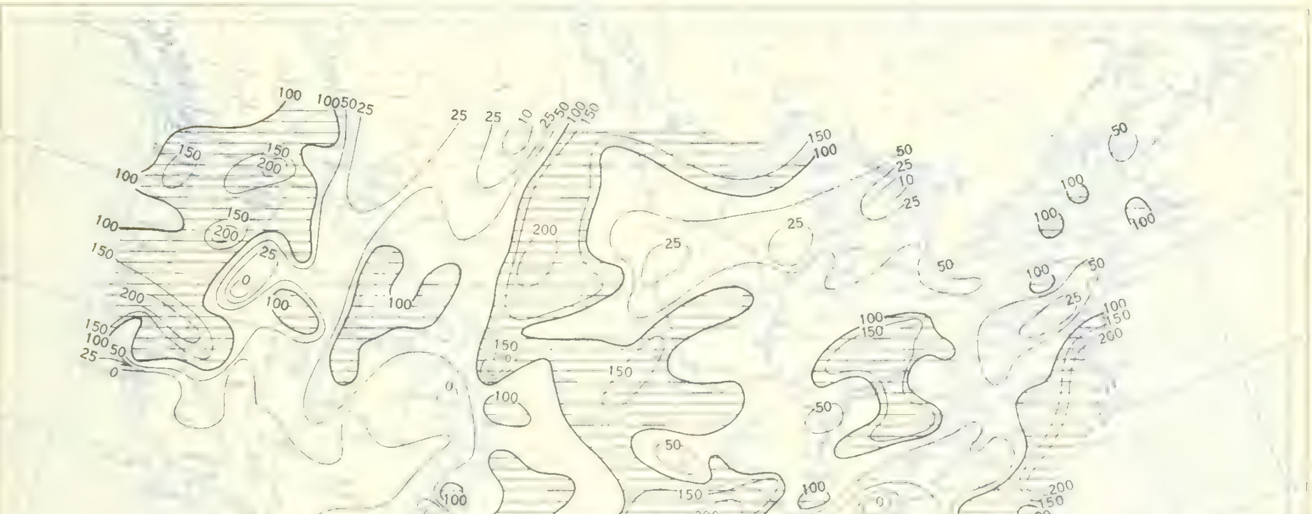


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), September 1955.

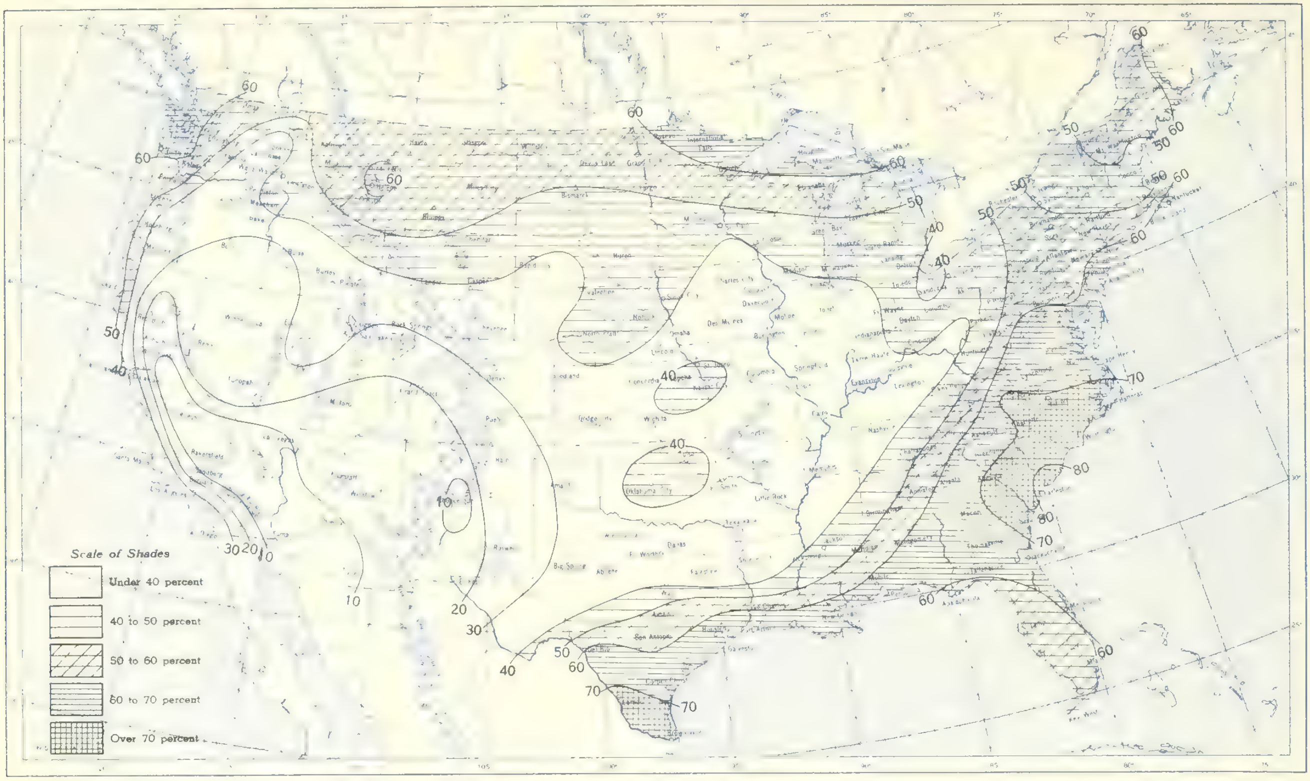


B. Percentage of Normal Precipitation, September 1955.

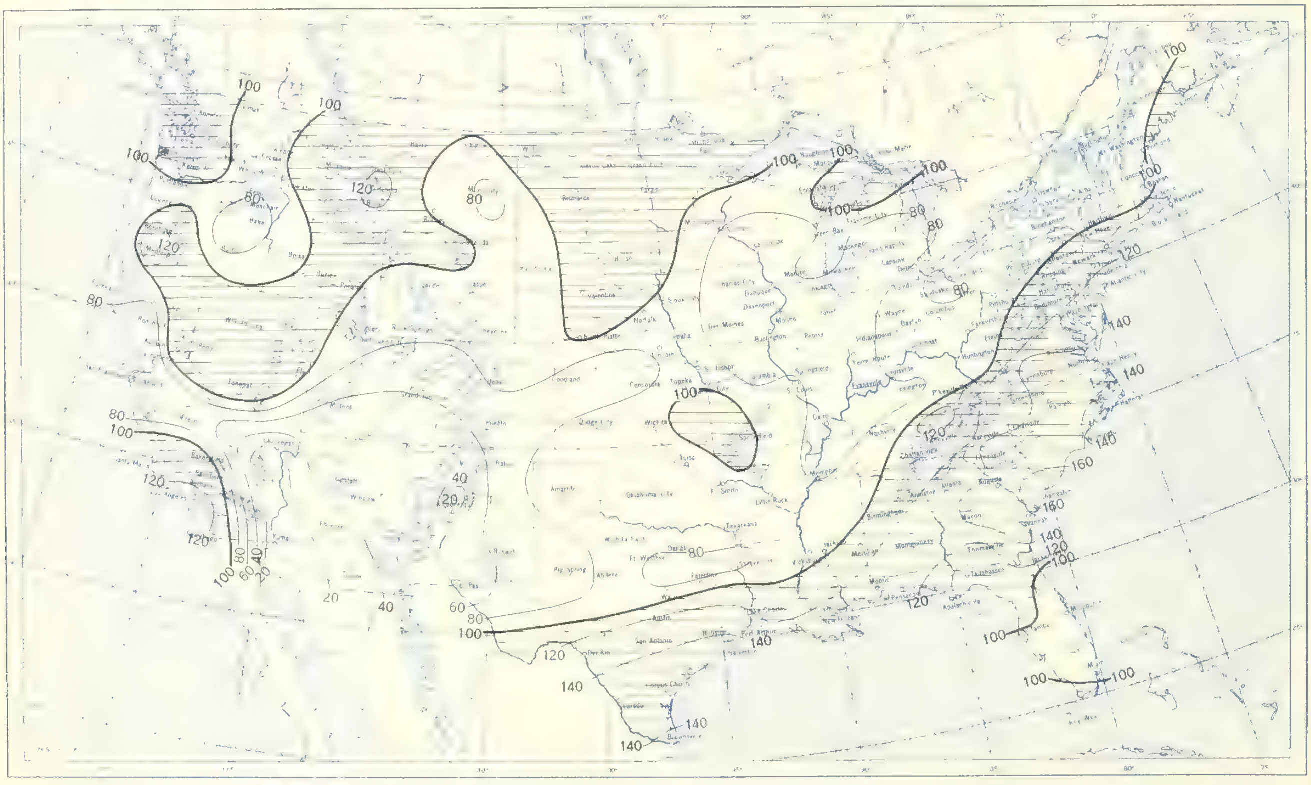


Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, September 1955.

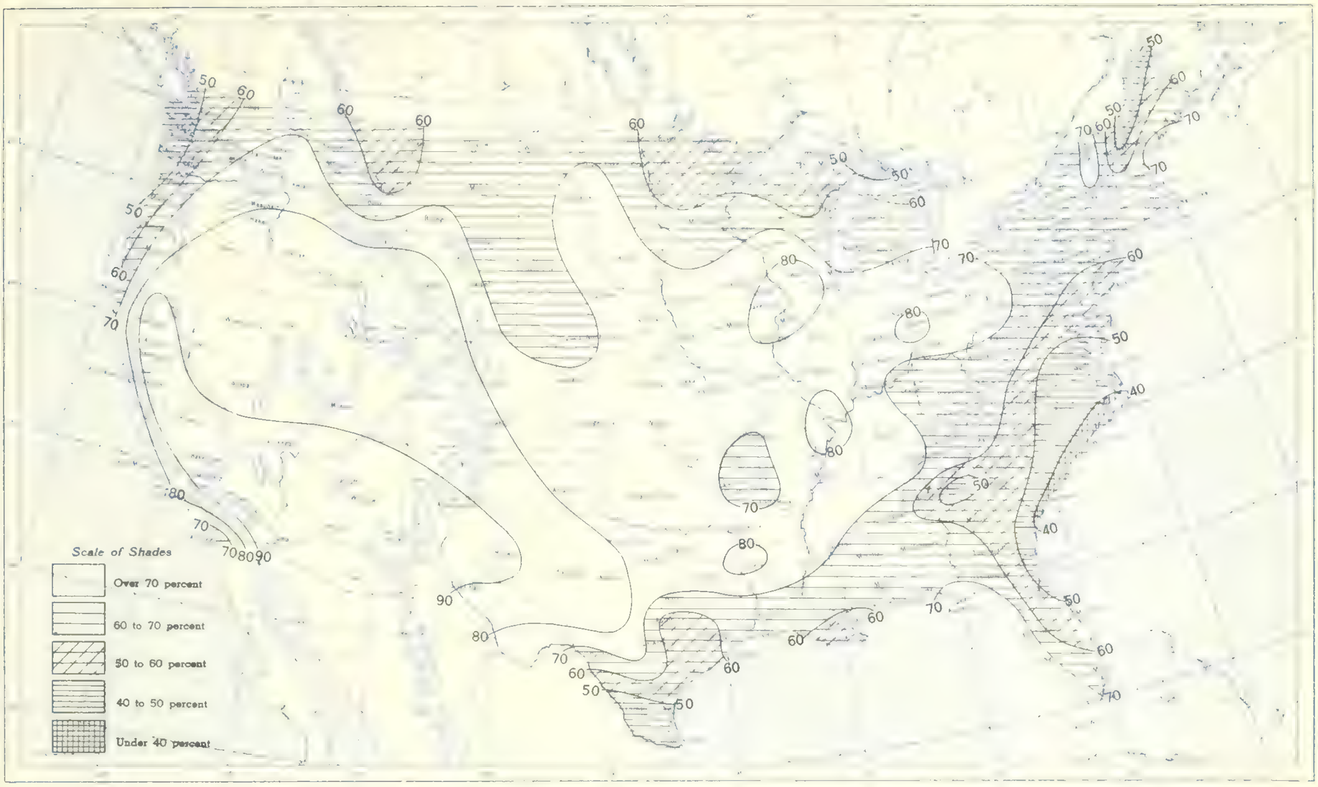


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, September 1955.

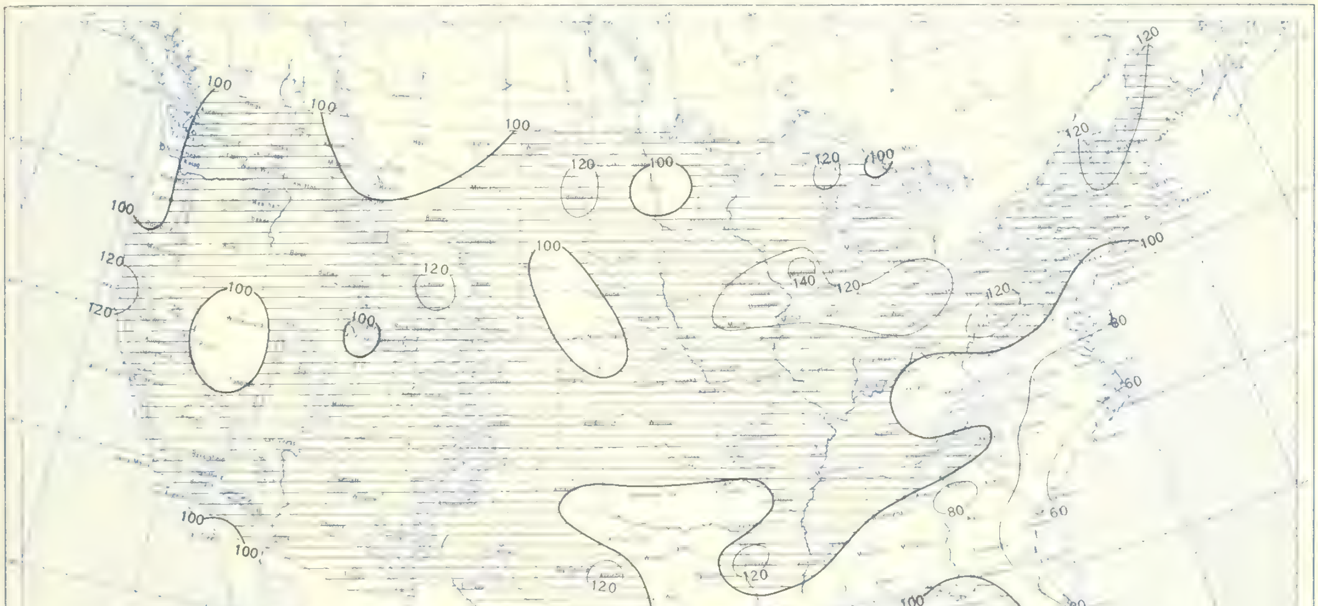


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, September 1955.

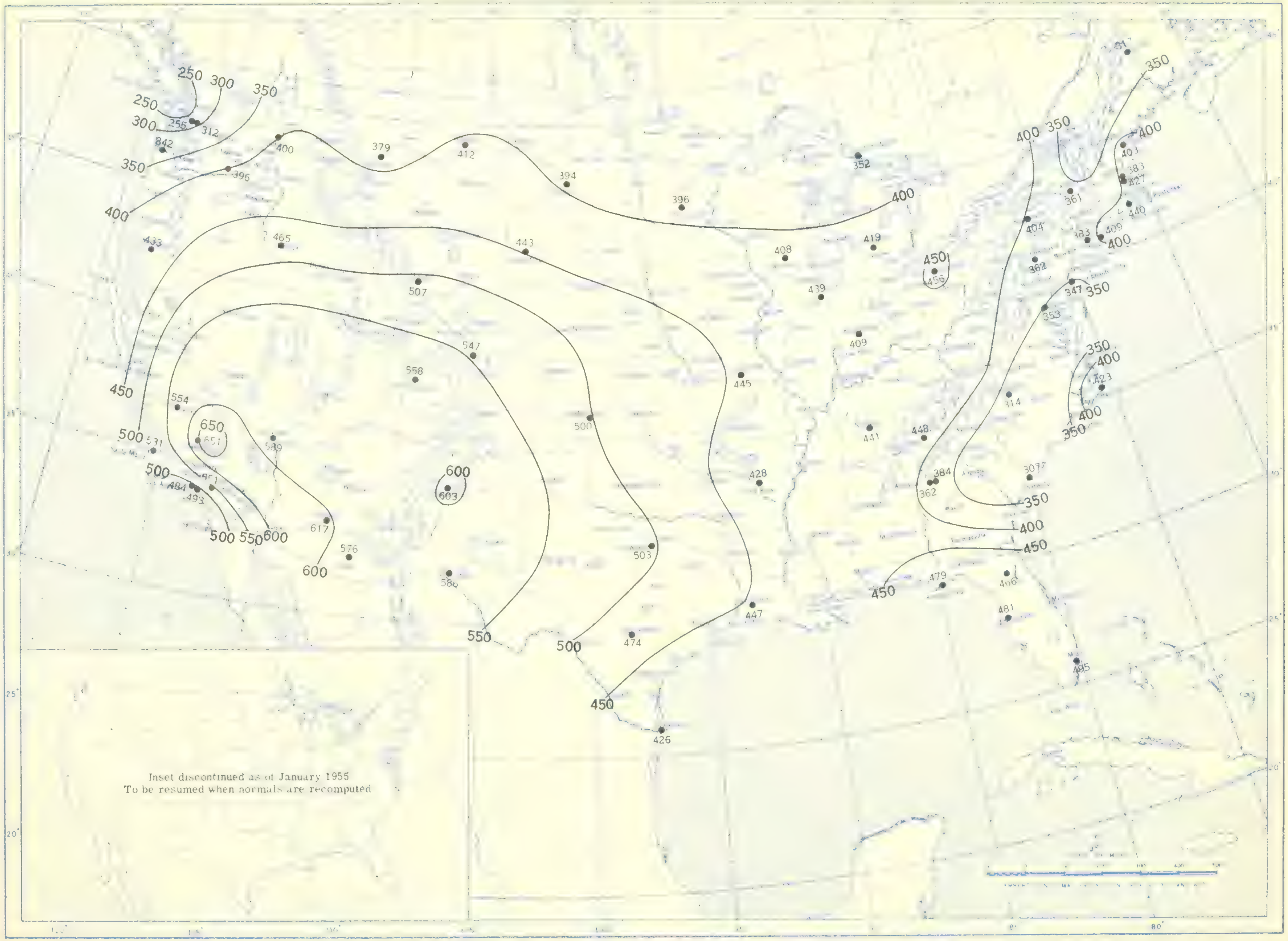


B. Percentage of Normal Sunshine, September 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, September 1955. Inset: Percentage of Normal Average Daily Solar Radiation.



Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Anticyclones at Sea Level, September 1955.

Chart IX. Tracks of Centers of Anticyclones at Sea Level, September 1955.

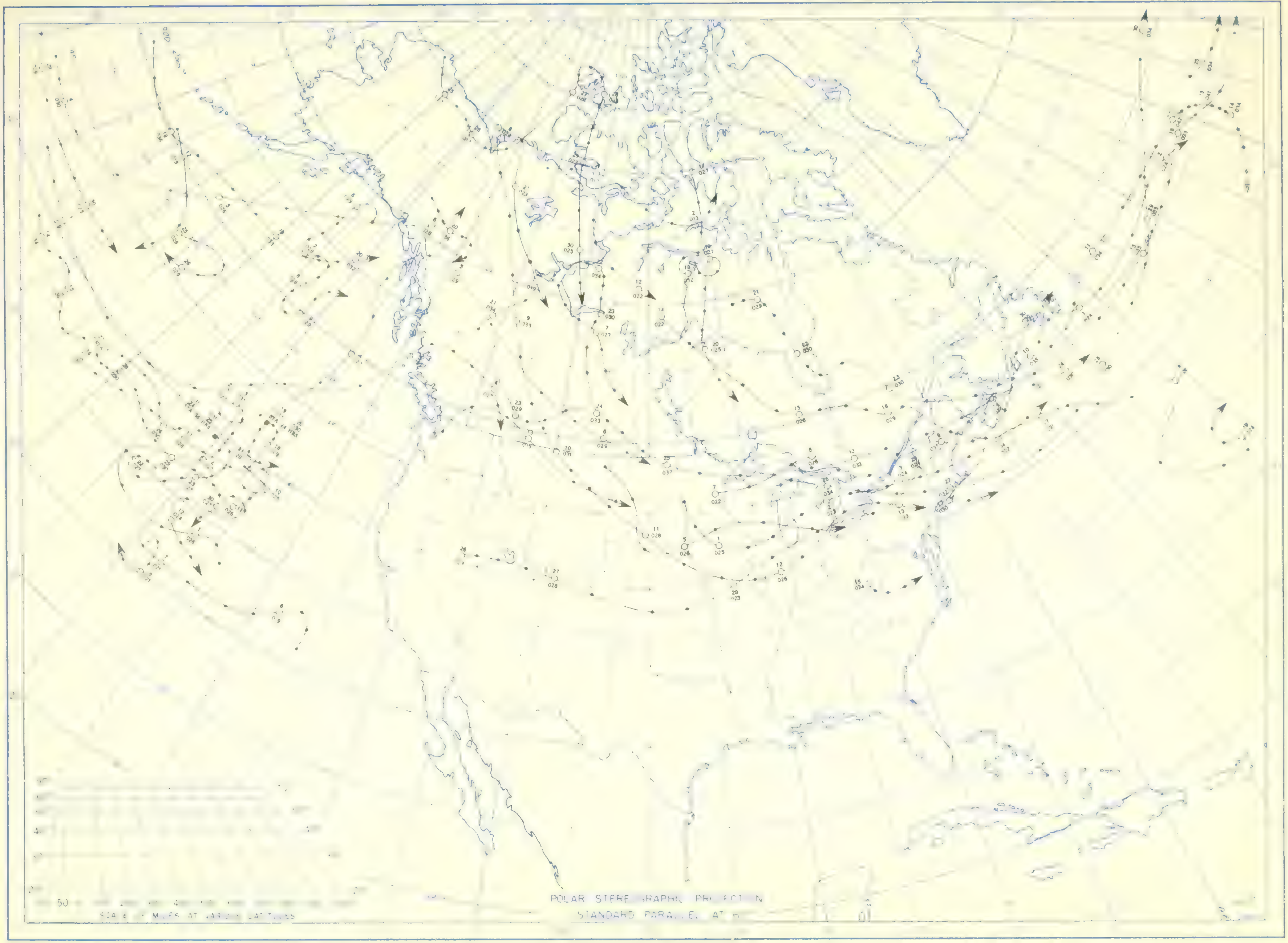
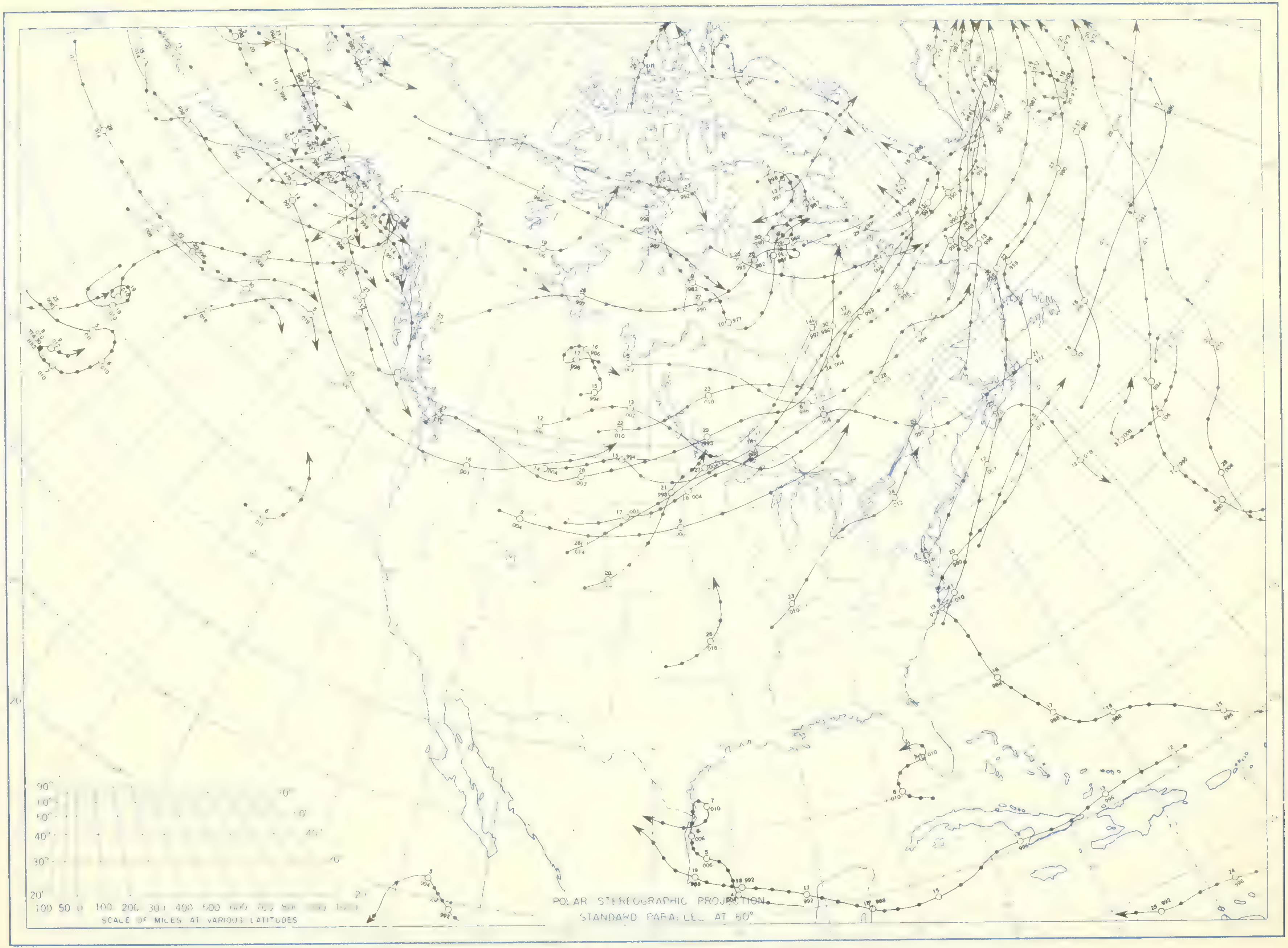

POLAR STEREOGRAPHIC PROJECTION
STANDARD PARALLEL AT
SCALE OF MILES AT VARIOUS LATITUDES

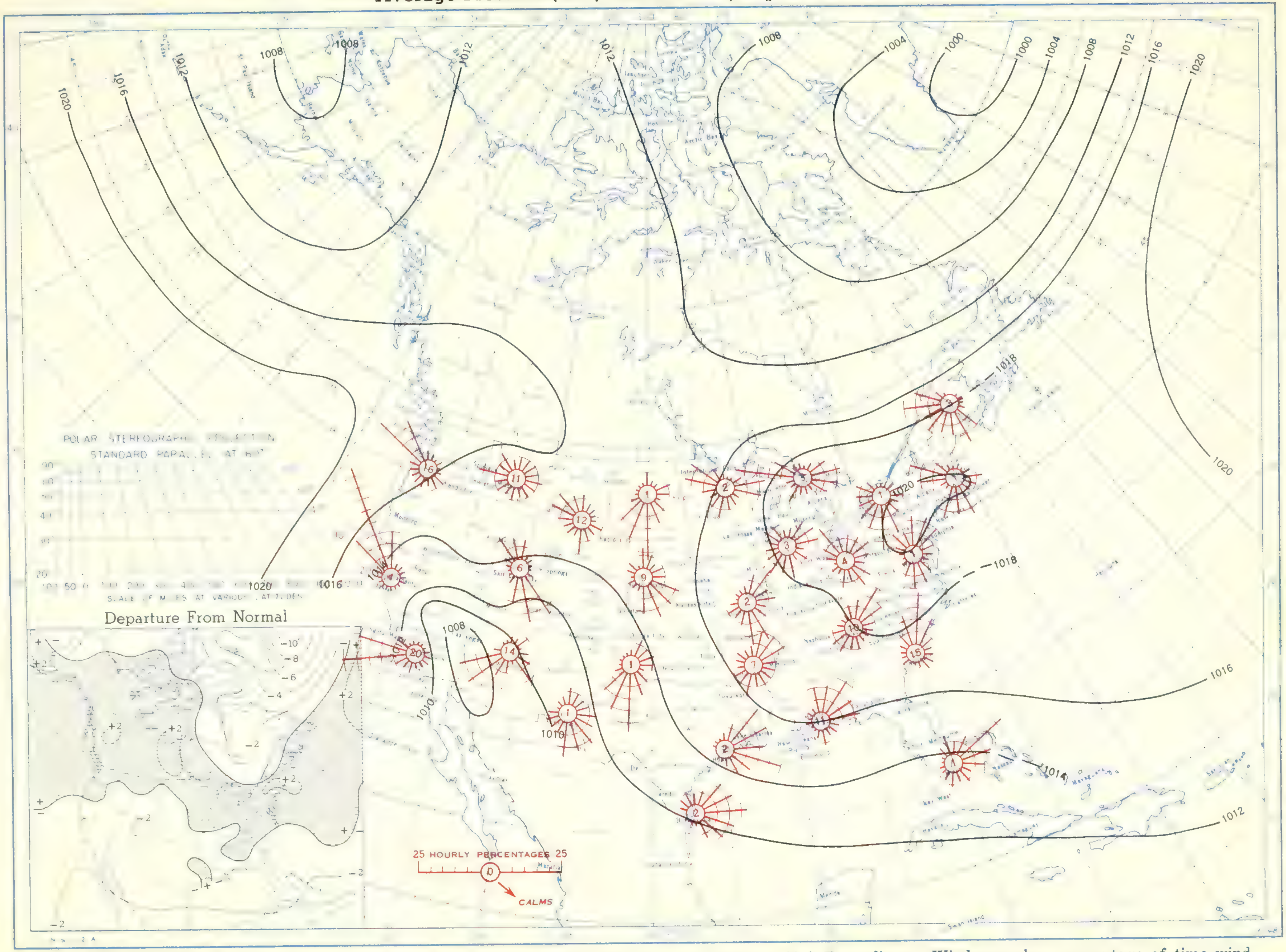
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$). Basic data for isolines are shown on chart. Further estimates are obtained from supplementary data for which limits of accuracy are wider than for those data shown.

Chart X. Tracks of Centers of Cyclones at Sea Level, September 1955.



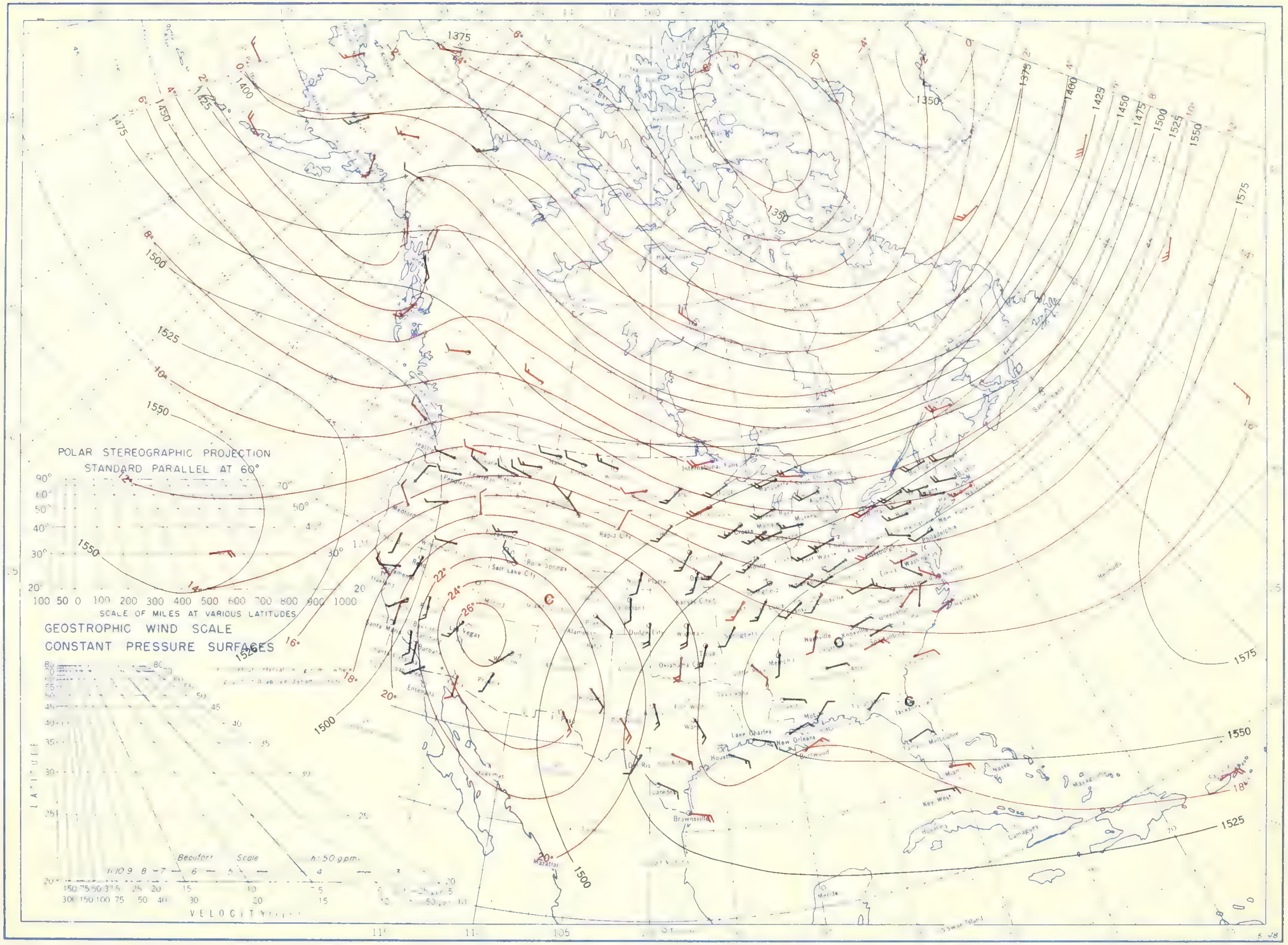
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Chart XI. Average Sea Level Pressure (mb.) and Surface Windroses, September 1955. Inset: Departure of Average Pressure (mb.) from Normal, September 1955.



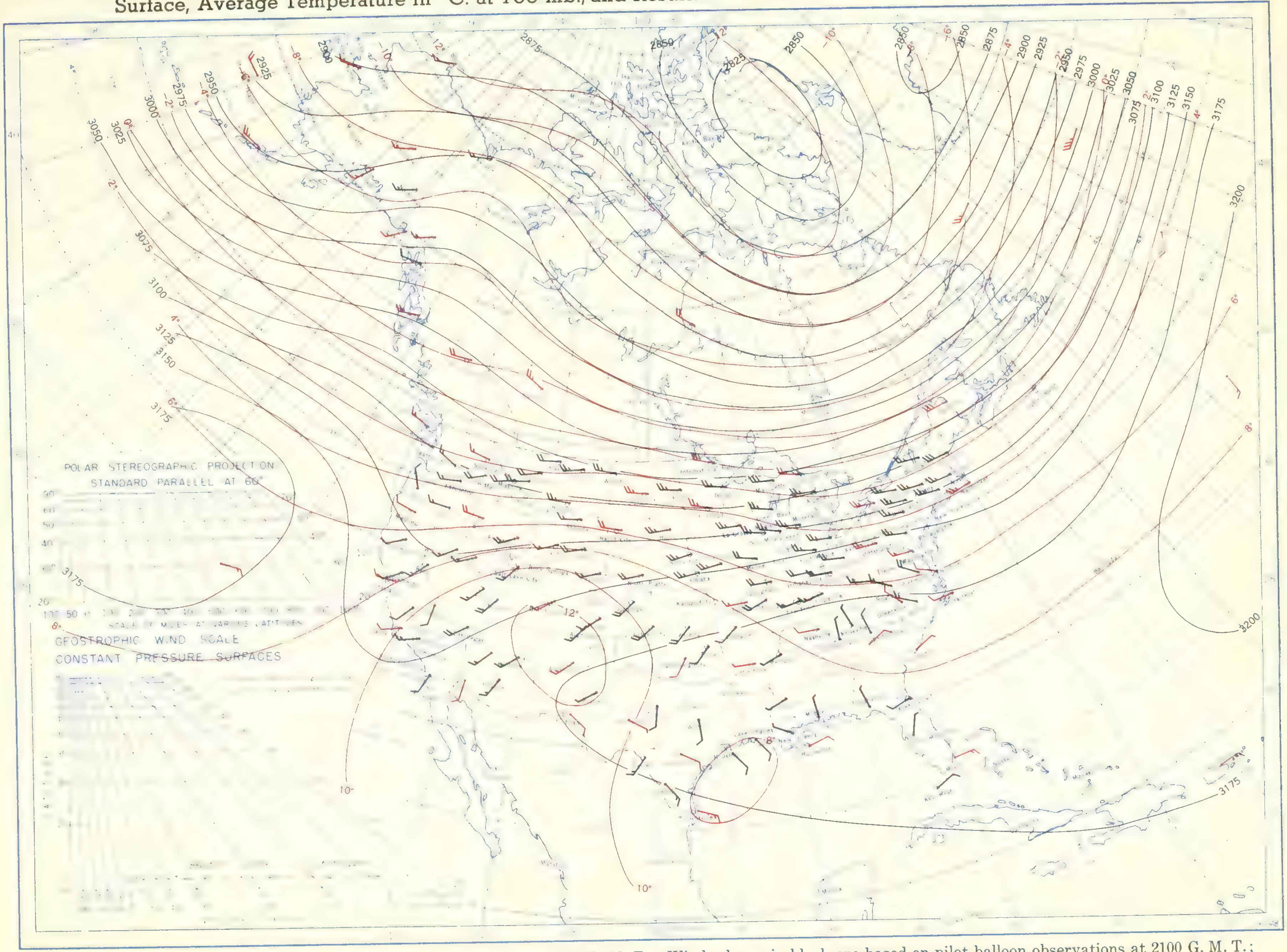
Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), September 1955.



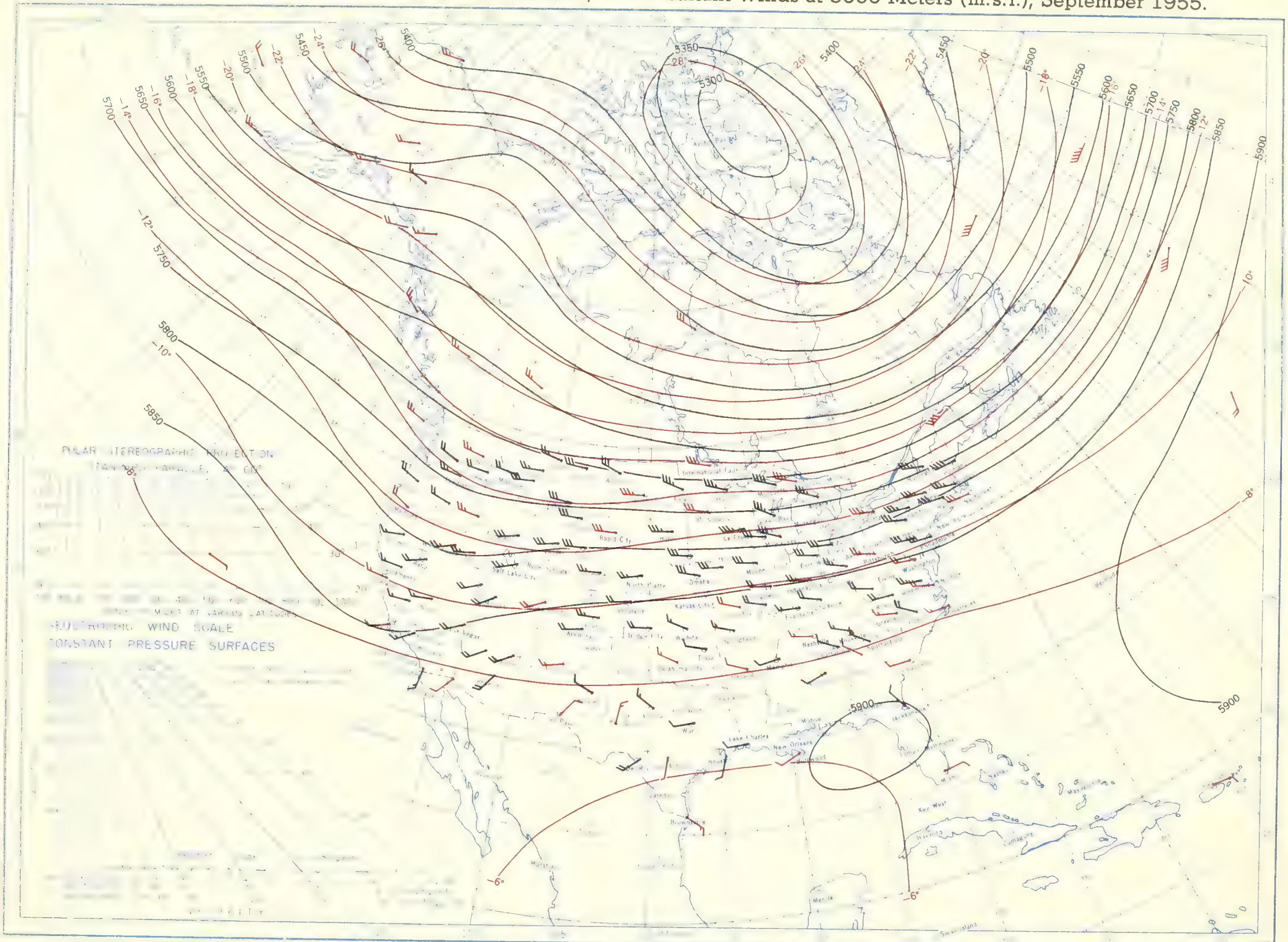
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIII. Average Dynamic Height in Geopotential Meters (1 g.p.m.. = 0.98 dynamic meters) of the 700-mb. Pressure Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), September 1955.



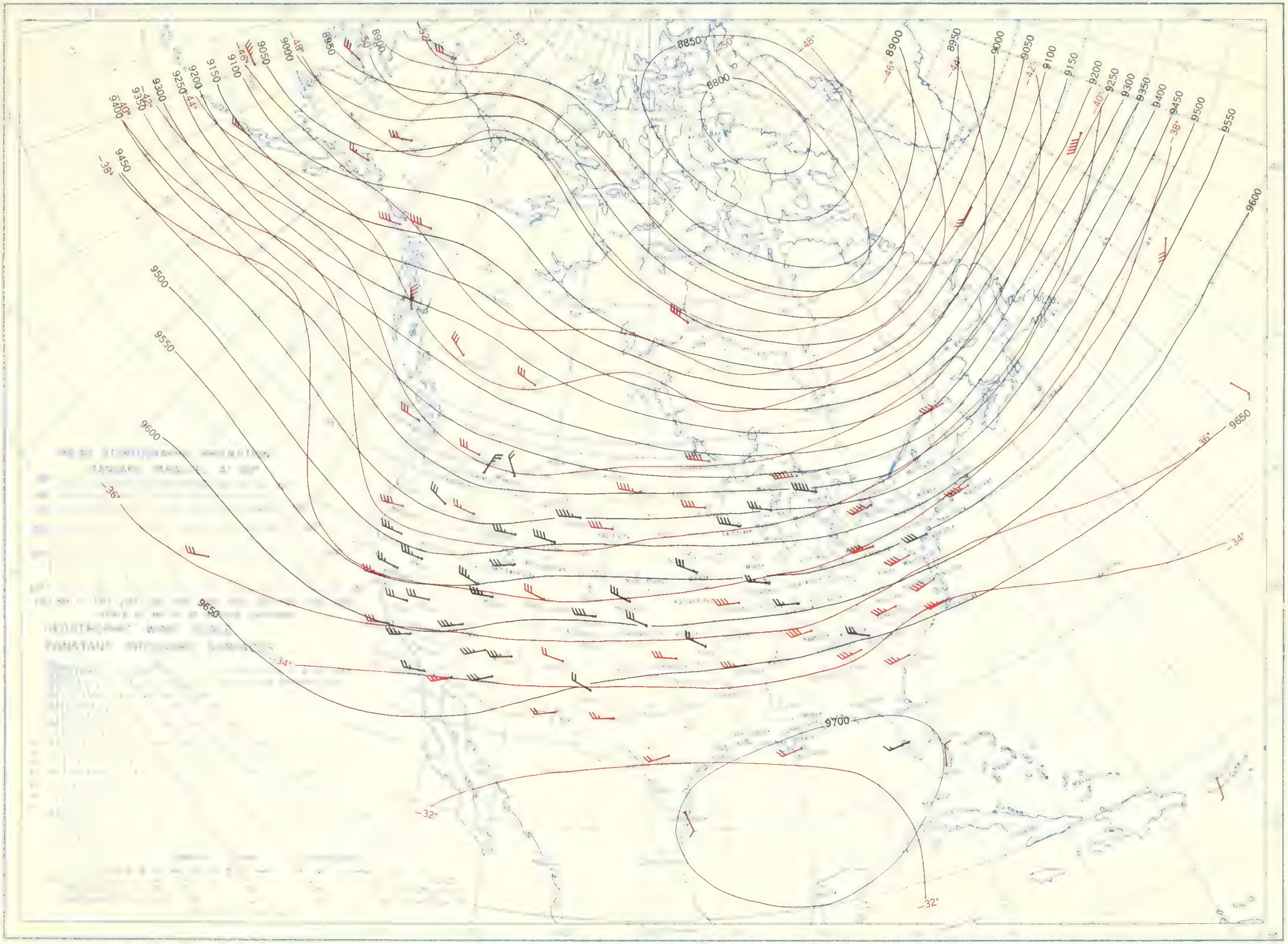
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), September 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 300-mb. Pressure Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), September 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

OCTOBER 1955
Volume 6 No. 10

ASHEVILLE: 1956

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CHARTS I-XV

NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 6 No. 10

OCTOBER 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

Flood-producing rains in the Northeast and to a lesser degree in the north Pacific coastal areas were the most outstanding weather abnormalities of the month. In most of the remainder of the country, intervals of fair, sunny weather, typical of October, were very favorable for the maturity and harvest of crops, the total production of which was among the highest on record. During the last decade freezing occurred in parts of the South about 2 weeks early, but Chicago, Ill., reported one of the longest growing seasons on record. Precipitation was generally sufficient east of the Mississippi River for fall-seeded crops and pastures, but more was needed in most sections of the northern Great Plains and Rocky Mountain States.

TEMPERATURE.--Temperatures for the month, averaging near normal in nearly all sections of the country, were slightly below along the Pacific Coast and in the Southeast and a few degrees below elsewhere. Average departures from normal for the month ranged from 4° below at Augusta, Ga., to 6° above at Havre, Mont. October was the twelfth consecutive month with below-normal temperatures at San Francisco, Calif. In contrast temperatures at Yuma, Ariz., were persistently on the warm side, and averaged 79.7° for the month ranking this October among the 4 warmest on record there since 1868. The month's extreme temperatures ranged from -6° at Fraser, Colo., on the 24th to 108° at Florence, Ariz., on the 1st, Brawley, Calif., on the 2d and 3d, Indio, Calif., on the 3d, and El Centro, Calif., on the 9th. These were well within the limits of previous records.

The outstanding warm spell of the month occurred between the Pacific States and the Appalachians during the second week when maxima of 90° or above extended northward to the Canadian Border. Glasgow, Mont., recorded 92° on the 10th, and on the same date Williston, N. Dak., recorded 90° which equaled the highest for so late in the season established there in 1910.

Temperatures along the Pacific Coast remained below normal virtually the entire month, and at San Francisco, Calif., this was the twelfth consecutive cooler than normal month. In the southeastern quarter of the Nation, however, temperatures were relatively mild during the first decade, but were persistently below normal by 3° to 6° during the remainder of the month.

Lowest temperatures occurred in nearly all sections during the last 10 days of the month when successive surges of cold air brought frost and freezing into the deep South. Meridian, Miss., reported freezing on the 25th, 26th, 27th, and 31st which was about 2 weeks earlier than usual. Many middle and even some northern areas also reported their first freeze of the season during the last decade which was later than usual there. At Chicago, for example, the first freeze occurred on the 25th, ending an unusually long growing season of 209 days, 21 days longer than average.

PRECIPITATION.--In New York, southern New England, eastern Pennsylvania, and New Jersey, heavy rains on the 14th, 15th, and 16th caused major floods which were responsible for more than 30 deaths and property losses estimated at millions of dollars. Greatest damage occurred in the western portions of Massachusetts and Connecticut. Rainfall during this storm, ranging up to 14 inches or more, accounted for more than one-half of some unusually large monthly totals. Among these were: Round Pond, Conn., 19.65 inches; Heath, Mass., 19.77; South Lyndeboro, N.H., 11.89; Macopin Intake, N.Y., 13.95; West Shokan, N.Y., 12.42; Pimple Hill, Pa., 13.30; Austin, R.I., 12.42; and Mays Hill, Vt., 16.69 inches. Stations with long records reporting new record monthly totals for October included Providence, R.I., 7.00 inches; Binghamton, N.Y., 9.59; and Syracuse, N.Y., 8.29. Syracuse also reported 3.60 inches in 24 hours on the 5th and 6th for another new October record there.

Heavy rains fell in the Pacific Northwest during the first decade and the last week. Cougar, Wash., reported the greatest monthly total, 26.58 inches. Eugene, Oreg., reported a new 24-hour record amount of 3.85 inches on the 8th and 9th. Washington had twice its normal rainfall, and some streams in the western portion of the State were above flood stage at the end of the month. In western Oregon heavy rains caused crop losses estimated at $1,450,000.

The month's rainfall, exceeding 2 inches in parts of the lower Great Plains and in most areas east of the Mississippi River, generally furnished ample soil moisture except in the South and even there dry soil conditions were improved.

Except in the Pacific Northwest and parts of the lower Great Plains, most areas west of the Mississippi River received below normal rainfall and the surface was quite dry at the end of the month. Much of the Far Southwest and scattered stations in the western Great Plains received no measurable rain at all. California's rainfall was only 25 percent of normal, nearly all falling in the north portion of the State. At the end of the month Bakersfield had gone 176 days without rain.

Snowfall was of little importance until the last decade when unusually heavy snows for the season fell in parts of the Rocky Mountains and North Central Interior from the 26th to 28th with 11 inches at Silver Lake, Utah, and 15 inches at Fox Park, Wyo. Several inches of snow fell in the extreme upper Mississippi Valley during the last 5 days of the month. Climax, Colo., reported a monthly total of 25.9 inches.

DESTRUCTIVE STORMS.--Many damaging thunderstorms and a few tornadoes occurred in the eastern third of the Nation when a cold front moved across that region on the 23d and 24th. Damage was estimated at $200,000 in Michigan, $100,000 in New Jersey, $150,000 in New England, and over $400,000 in Mississippi.

Another outbreak of similar storms occurred in central areas of the country on the 6th, causing damage totaling in the neighborhood of a quarter of a million dollars.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

Section	Temperature								Precipitation				
	Average	Departure from normal	Monthly extremes						Average	Departure from normal	Monthly extremes		
			Station	Highest	Date	Station	Lowest	Date			Station	Greatest	Station
	°F.	°F		°F.			°F.		In	In.		In.	
Alabama	62.5	-2.4	4 Stations	96	1	Alexander City 6NE	22	31	2.39	-0.11	Wadley	5.72	Milstead
Arizona	64.8	3.0	Florence	108	1	Alpine	14	7	.29	-.52	Childs	2.64	38 Stations
Arkansas	61.8	-1.4	2 Stations	93	6	Waldron	23	25	2.40	-.90	Horatio	6.28	Waldron
California	62.3	1.3	3 Stations	108	2+	White Mountain #1	9	26	.34	-.96	Crescent City	7.66	222 Stations
Colorado	49.8	2.3	do	92	5+	Fraser	-6	24	.38	-.85	Winter Park	2.48	9 Stations
Connecticut	53.7	1.5	Hartford Brainerd Fld	86	11	2 Stations	20	23	12.41	8.80	Round Pond	19.65	Putnam
Delaware	58.6	1.0	6 Stations	84	7+	Milford	28	23	3.79	.71	Selbyville	5.69	Middletown 2S
Florida	72.1	-.8	Bartow	96	2	Niceville	32	26+	3.28	-.96	South Miami 3W	9.04	Arcadia
Georgia	63.8	-1.6	2 Stations	94	6+	Washington 2SSW	22	31	2.47	-.17	Flat Top	6.88	Savannah Beach 2N
Idaho	47.9	.5	Grand View	90	3	Island Park Dam	3	31	1.63	.21	Wallace	8.48	Springfield 1SE
Illinois	56.2	.3	White Hall 1E	87	11	2 Stations	25	25	4.68	2.01	Monticello	8.68	Golconda Dam
Indiana	55.4	.2	Tell City Power Pl.	87	7	Brookville 1S	23	25+	4.61	1.84	Monticello	7.35	Franklin
Iowa	53.4	.9	Hawarden	88	10	Ida Grove	15	31	1.49	-.80	Tripoli	5.55	Audubon
Kansas	58.8	1.1	Mcade	94	11	Sublette	16	30	1.46	-.57	Independence	7.26	5 Stations
Kentucky	56.8	-1.6	Hickman 1E	90	7	Manchester 4SE	22	25	2.83	.23	Uniontown Dam 49	6.58	Jackson
Louisiana	67.3	-1.8	Cinclare	96	3+	2 Stations	27	26	1.94	-1.23	Alexandria Pineville Br.	6.27	Milam, Texas 8E
Maine	47.1	-.8	Bridgton 1NNW	80	10	Hiram 2S	19	23	3.20	-.38	Sanford 2NNW	7.46	Fort Kent
Maryland	57.9	1.4	Coleman	89	7+	Oakland 1SE	22	31	4.17	1.17	Towson	7.55	2 Stations
Massachusetts	52.9	1.0	Clinton	85	13	West Cummington	18	23	8.08	4.65	Heath	19.77	Rockport 1ESE
Michigan	51.7	2.9	Ishpeming	86	10	Beechwood	15	25	3.74	1.09	Dowagiac	8.24	Bad Axe
Minnesota	48.2	2.2	Madison	91	10	Argyle	6	24	1.19	-.65	Milaca	3.25	Beardsley
Mississippi	64.0	-1.5	Merrill	98	1	Houston 2NE	22	25+	1.61	-.86	Beaumont	4.75	Liberty
Missouri	57.8	.1	Lakeside	89	7	Princeton	21	31	3.64	.70	Mexico	7.36	Ozark Beach
Montana	47.4	1.9	Miles City	96	9	Kings Hill	0	31	.84	-.15	Essex	6.40	11 Stations
Nebraska	53.8	1.7	Curtis	93	9	2 Stations	13	30	.39	-1.06	Falls City	2.35	2 Stations
Nevada	54.6	2.8	Overton	98	18	Deeth	6	24	.11	-.54	Jarbidge	1.12	16 Stations
New Hampshire	48.3	.7	2 Stations	82	11+	Grafton	15	23	5.25	2.10	South Lyndeboro	11.89	North Stratford
New Jersey	57.5	2.5	Elizabeth	87	11	Layton 3NW	20	23	7.27	3.77	Macopin Intake	13.95	Deepwater
New Mexico	56.6	1.4	Rodeo	98	19	Eagle Nest	-4	25	.76	-.35	Tatum	7.26	31 Stations
New York	52.4	2.3	New York WB LaGuardia	86	11	Salem	16	23	8.16	4.87	West Shokan 3SW	25.27	Plattsburgh
North Carolina	60.3	-.4	2 Stations	90	1	Celo 2S	20	26	2.61	-.57	Concord	7.57	2 Stations
North Dakota	47.3	3.3	Forman	93	10	3 Stations	8	24	.52	-.52	Walhalla	2.31	3 Stations
Ohio	54.8	.9	Montpelier	86	5	Tom Jenkins Dam	22	25	3.72	1.21	Chardon	7.60	Columbus Ohio St.Uni
Oklahoma	62.8	-.3	2 Stations	95	20+	2 Stations	23	24+	3.36	.40	Clinton	11.03	3 Stations
Oregon	50.3	.0	Richland	89	1	Fremont	5	6	3.70	1.48	Valsetz	21.85	Harper
Pennsylvania	54.1	1.3	3 Stations	87	7+	Confluence 1SW Dam	18	25	5.74	2.52	Pimple Hill	13.30	Hyndman
Rhode Island	54.5	1.0	Kingston	84	11	Kingston	23	23	7.73	4.27	Austin	12.42	Providence WB AP
South Carolina	62.8	-1.4	2 Stations	92	1	Chester 2SW	26	31	2.37	-.45	Little Mountain	6.14	Beaufort 7SW
South Dakota	51.3	2.4	do	95	10	La Delle 7NE	6	24	.30	-.91	Lead	1.70	4 Stations
Tennessee	58.7	-1.2	Rogersville 1NE	93	1	Crossville CAA AP	21	25	2.50	-.26	Mount LeConte	7.09	Ovilla
Texas	67.1	.3	Jasper	98	10	Stratford	24	30	1.38	-1.07	Plains	10.55	Several stations
Utah	51.6	2.2	2 Stations	92	1+	Soldier Summit	6	28	.39	-.82	Pineview Dam	2.33	12 Stations
Vermont	48.1	.9	Vernon	83	12	2 Stations	12	26	5.12	1.89	Mays Mill	16.99	Canaan
Virginia	57.8	.3	2 Stations	88	6+	do	22	25+	2.48	-.45	John H. Kerr Dam	7.30	Halifax 5ENE
Washington	48.9	-1.2	Kennewick	81	25	Lemanasky Lake	14	31	5.61	2.83	Cougar 1E	26.58	Quincy 3S
West Virginia	55.0	.1	2 Stations	89	8	3 Stations	18	25+	2.64	-.14	Weston	5.25	Romney 3NNE
Wisconsin	49.9	2.1	Brule Island	85	10	Danbury 1SE	16	21	3.18	.80	Pine River 3NE	5.14	Trempealeau Dam 6
Wyoming	47.0	2.6	Lower Crazy Woman Cr.	91	9	2 Stations	1	24+	.59	-.56	Snake River	3.41	10 Stations
Puerto Rico	78.4	.2	4 Stations	95	3+	Guineo Reservoir	59	8	6.61	-1.58	Rio Blanco 1800 Ft.	23.92	Culebra Island

+ And also on a later date or dates

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observat s).

Table 2

State and station	Elevation (ground)	Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet, Hail		Wind		Fastest mile			No. of days (sunrise to sunset)				
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
ALABAMA																																
Birmingham	610	992.8	1018.3	75	48	61.4	-2.3	89	6	31	31	0	1	48	69	3.73	0.87	1.97	5	1	T	T	6.4	NE	43	W	28	17	9	5	3.7	71
Mobile	211	1009.2	1017.3	79	55	66.8	-2.3	90	1	39	31	1	0	55	73	3.74	-.04	1.38	7	5	T	0	8.4	N		---	--	20	8	3	2.9	--
Montgomery	198	1010.1	1017.6	78	50	64.1	-2.3	91	1	35	26+	2	0	50	70	1.15	-1.21	.48	4	3	0.0	0	6.3	NE	40	W	28	17	7	7	3.7	73
ARIZONA																																
Flagstaff	6993	------	------	68	31	49.3	3.2	78	1	17	28	0	19	--		.05	-1.41	.05	1	0	.0	0			--		-	22	7	2	2.4	
Phoenix	1114	973.2	1011.9	91	60	75.7	4.9	99	1	47	28	19	0	46	37	.13	-.27	.13	1	1	.0	0	4.0	E	•18	SSE	21	22	7	2	2.0	93
Prescott	5014	849.0	1015.6	77	44	60.7	3.7	87	1	32	28	0	1	--		.48	-.20	.48	1	2	T	T	8.1	SW	26	SE	24+	21	8	2	2.4	90
Tucson	2558	925.2	1011.7	90	59	74.3	4.7	101	1	46	29	16	0	38	30	.32	-.15	.32	2	1	.0	0	7.0	SE	28	SE	7	27	1	3	1.6	95
Winslow	4880	853.4	1014.5	78	43	60.9	4.6	89	1	27	28	0	3	26	30	.02	-.53	.02	2	2	.0	0	6.9	WSW	•33	WSW	31	26	3	2	1.8	--
Yuma	199	1006.1	1010.9	96	64	79.7	3.3	107	1	56	22+	27	0	42	31	T	-.32	T	0	0	.0	0	5.7	N	28	S	3	26	3	2	1.6	96
ARKANSAS																																
Fort Smith	458	1000.0	1016.7	77	48	62.7	-1.2	90	6	32	25	1	1	49	68	.57	-3.06	.42	2	3	T	0	7.3	ENE	30	SW	28	20	6	5	2.9	76
Little Rock	257	1003.7	1016.8	76	51	63.6	-.5	89	6	35	31	0	0	49	63	1.17	-1.64	1.08	4	3	.0	0	9.1	SSW	33	W	6	19	5	7	3.2	86
Texarkana	361	------	------	78	53	65.3	-1.7	90	5	37	25	1	0	--	--	.88	-2.50	.75	3	2	.0	0		-	--	-	-	--	--	--	---	--
CALIFORNIA																																
Bakersfield	489	997.6	1015.6	83	53	68.0	1.5	95	7	44	31	7	0	44	46	.00	-.37	.00	0	0	.0	0	4.1	NW	•18	NW	26	25	3	3	1.8	--
Bishop	4108	874.7	1014.9	81	36	58.4	1.3	87	2+	28	28	0	9	--	-	T	-.34	T	0	0	.0	0			-	--		25	5	1	1.5	--
Blue Canyon	5280	841.2	1015.6	66	47	56.4	3.3	78	12	33	31	0	0	--	--	.86	-2.31	.52	3	1	.0	0			---			22	4	5	2.7	--
Burbank	699	988.5	1014.7	77	53	65.2	.1	96	6	48	27	4	0	49	65	.01	-.51	.01	1	0	.0	0	3.7	S	•14	SE	9	14	11	6	4.3	--
Eureka CO	43	1016.6	1019.0	58	46	52.3	-1.9	67	9	38	31	0	0		-	2.64	-.06	1.06	9	0	.0	0	4.8	---	23	SW	9+	7	5	19	6.9	43
Fresno	331	1003.4	1015.2	81	49	65.0	.9	94	7	39	31	1	0	45	54	T	-.66	T	0	1	.0	0	4.8	NW	22	NW	26	24	4	3	1.8	91
Los Angeles CO	312	------	----	73	56	64.2	-2.4	90	29	51	2+	1	0	52	73	T	-.50	T	0	0	.0	0	4.7	--	16	W	6+	17	7	7	4.2	64
Los Angeles	99	1011.2	1014.9	69	56	62.2	-1.2	88	29	52	23	0	0	53	76	T	-.43	T	0	0	.0	0	5.4	W	%23	W	1	10	8	13	5.9	--
Mt. Shasta CO	3544	894.3	1018.3	69	38	53.1	2.1	84	16+	22	31	0	6		--	.36	-2.25	.28	2	0	.0	0	-	--	-	---	--	15	7	9	4.3	--
Oakland	3	1016.9	1017.4	69	50	59.4	-.6	87	12	42	27+	0	0	49	74	.07	-.84	.06	2	0	.0	0	4.8	WNW	•20	NNW	31	17	8	6	3.6	--
Red Bluff	341	1003.4	1015.9	81	52	66.3	1.2	98	16	44	31	7	0	40	43	.38	-1.11	.31	3	0	.0	0	8.3	NW	27	N	5	19	8	4	2.7	93
Sacramento	17	1014.6	1015.6	78	49	63.5	.8	89	2+	44	4	0	0	45	58	.47	-.44	.37	2	0	.0	0	6.9	SSW	27	W	18	25	2	4	2.3	86
Sandberg	4517	863.9	1013.9	72	53	62.3	4.0	85	2	38	31	0	0	-		.00	-.66	.00	0	0	.0	0	----	---	---	---	--	27	3	1	1.1	--
San Diego	19	1011.5	1014.7	69	57	63.3	-1.7	84	29	51	28	0	0	53	74	T	-.63	T	0	0	.0	0	5.6	WNW	15	SW	31	9	12	10	5.6	46
San Francisco CO	52	-- ---	------	67	53	59.7	-1.3	82	12	48	7	0	0	-	--	.03	-1.04	.03	1	0	.0	0	7.5	---	26	W	3	14	10	7	4.0	66
San Francisco	8	1016.3	1017.0	69	50	59.4	.0	85	12	43	27	0	0	50	77	.01	-.91	.01	1	0	.0	0	7.7	WNW	40	WNW	3	15	12	4	3.5	--
Santa Maria	238	1007.1	1015.6	71	48	59.4	-.6	91	24	41	27	1	0	47	73	T	-.62	T	0	0	.0	0	5.6	WNW	•21	WSW	24	16	8	7	3.9	--
COLORADO																																
Alamosa	7538	774.5	1021.0	66	23	44.2	.1	76	1	7	24	0	26	--	-	.03	-.55	.02	2	0	.1	T	--	-	---	---	--	23	5	3	2.6	--
Colorado Springs	6173	812.1	1016.9	69	37	52.9	1.5	82	8+	20	30	0	9	22	37	.01	-.62	.01	1	0	T	T	10.0	NNE	•35	NNW	23+	21	7	3	2.7	--
Denver	5292	838.8	1015.6	70	38	54.0	2.5	81	8+	25	23	0	5	24	37	.66	-.35	.65	3	2	4.1	3	8.1	S	31	NE	31	19	[illegible]	6	3.2	80
Grand Junction	4849	862.2	1017.8	70	42	55.9	1.5	80	1+	24	29	0	5	23	31	.02	-.82	.01	2	2	T	T	9.1	ESE	42	NW	4	22	4	5	2.6	82
Pueblo	4639	857.8	1016.2	74	37	55.4	2.6	88	10	20	24	0	9	27	41	.10	-.60	.07	2	0	.4	T	7.1	W	42	N	23	19	5	7	3.2	85
CONNECTICUT																																
Bridgeport	7	1015.9	------	66	49	57.6	3.2	80	11	34	23	0	0	--	--	10.72	7.89	5.84	10	1	.0	0	-	-	- -	---	--	12	7	12	3.9	--
Hartford	169	1010.6	1016.5	64	44	53.5	.6	85	11	26	23	0	2	46	79	11.61	8.81	3.75	14	1	T	0	10.5	N	40	W	24	9	5	17	6.6	45
New Haven	6	1015.2	1015.9	65	47	55.8	2.5	78	11+	30	23	0	1	--	-	10.06	7.06	3.81	12	1	.0	0	8.9		44	[illegible]	14	8	9	14	6.1	59
DELAWARE																																
Wilmington	73	1012.3	1015.5	69	47	58.1	1.9	84	7	34	23+	0	0	49	76	2.62	-.37	.82	11	3	.0	0	7.2	NW	--	--	--	11	10	10	5.1	--
DIST. OF COLUMBIA																																
Washington CO	72	------	------	71	50	60.3	1.9	84	7	39	23+	0	0	--		5.70	2.73	4.16	8	4	.0	0	5.6	-	34	NW	24	--	-	--	---	--
Wash. Nat'l AP	14	1011.9	1016.2	70	49	59.6	1.4	83	7	39	23+	0	0	49	71	6.46	3.61	4.98	8	4	.0	0	8.9	S	42	NW	24	12	9	10	4.8	65
FLORIDA																																
Apalachicola	13	1015.0	1016.2	78	62	69.9	-1.1	88	1	50	19+	0	0	--	--	2.41	-.14	1.08	7	5	.0	0	8.1	---	24	NW	29	21	7	3	2.7	86
Daytona Beach	31	1014.6	1016.1	80	62	71.1	-2.3	86	1+	44	31	0	0	67	76	3.17	-2.72	.87	11	3	.0	0	9.0	NE	•24	NNE	2+	16	3	12	4.6	--
Fort Myers	15	1014.6	--- --	85	64	74.4	-1.9	91	4+	52	20	4	0	--	--	2.15	-2.00	.86	11	5	.0	0	7.9		•27	SSW	3+	15	10	6	4.4	--
Jacksonville CO	18	------	------	79	62	70.2	-1.1	86	1+	48	19	0	0	--	-	8 37	3.24	3.63	9	-	.0	0			--					-	-	--
Jacksonville	24	1015.9	1016.8	80	61	70.3	-.6	89	1	46	31	0	0	59	74	5.36	.65	2.27	6	3	.0	0	9.3	NW	38	NE	3	15	11	5	4.0	67
Key West CO	9	1012.9	1013.5	85	73	78.8	-.7	90	3	67	16+	1	0	--	--	2.23	-4.55	.55	16	7	.0	0	8.8	--	21	NE	21	7	14	10	5.5	72
Lakeland CO	214	------	------	82	65	73.5	-.8	92	4	52	19	2	0	--	--	3.36	.83	1.53	8	6	.0	0	5.5		- -			13	10	8	4.5	57
Miami CO	8	------	--- --	82	71	76.3	-1.3	88	4	59	31	0	0	--	--	5.10	-2.78	2.88	11	6	.0	0	12.5	---	40	NE	23	12	15	4	4.4	66
Miami	8	1013.2	1014.2	85	70	77.1	-.8	89	4+	59	31	0	0	66	73	4.36	-3.87	2.08	12	4	.0	0	10.2	ENE	•25	ESE	9	10	17	4	5.1	--
Miami Beach	9	------	------	83	73	77.8	.9	89	14	62	20+	0	0	--	-	4.52	-2.55	3.11	13	-	.0	0	-		--			-	-	-	---	--
Orlando	106	1011.9	1016.2	82	63	72.4	-2.3	89	6	47	31	0	0	63	79	4.10	.19	1.21	13	5	T	0	7.9	N	•40	W	17	16	7	8	4.5	--
Pensacola CO	13	1014.8	- -	78	59	68.3	-2.0	88	1	46	30+	0	0	-		2.46	-1.42	1.84	5	6	.0	0	9.0		21	W	16				-	82
Tallahassee	64	1014.1	1016.7	80	55	67.4	-1.4	90	1	39	31	1	0	55	73	1.44	-.94	.88	4	4	.0	0	5.8	NW	-		--	16	10	5	3.5	--
Tampa	19	1014.4	1015.9	83	64	73.2	-1.4	90	6	52	20	1	0	63	76	3.23	.09	2.02	8	5	.0	0	9.3	NNE	•35	NE	3	13	11	7	4.2	77
West Palm Beach	15	1013.4	1014.2	84	69	76.7	-.9	90	4	58	16	1	0	65	72	2.30	-6.02	1.20	13	2	.0	0	12.5	ENE	•30	ENE	1	9	15	7	5.4	--
GEORGIA																																
Athens	798	988.4	1017.4	74	48	60.7	-3.2	84	6+	33	25	0	0	48	70	1.64	-1.30	.58	8	2	.0	0	9.4	NW	•29	SSW	28	16	6	9	3.9	--
Atlanta	975	976.1	1017.7	73	51	61.9	-1.5	85	7	38	31	0	0	48	67	1.17	-1.43	.64	5	0	.0	0	9.6	NW	29	NW	28	15	10	6	3.7	67
Augusta	143	1010.4	1016.9	77	48	62.5	-4.2	89	7	32	26	0	1	51	75	1.75	-.78	.98	5	1	.0	0	5.6	[illegible]	•21	NW	14+	16	7	8	3.9	--
Columbus	385	1003 5	1017.9	76	50	62.7	3.1	89	6+	32	31	0	1	--	--	1.73	-.31	.65	8	1	.0	0	- -	- -				17	7	7	3.8	--
Macon	356	1003.5	1017.0	77	51	63.8	-2.8	88	6+	35	31	0	0	50	69	1.31	-.96	.73	9	1	.0	0	6.5	W	26	W	14	17	7	7	3.6	72
Rome	637	994.8	-- ---	73	44	58.5	-3.7	84	1	27	31	0	5	--	--	3.44	.58	2.12	5	2	.0	0			--	-	-	15	8	8	4.2	--
Savannah	48	1014.5	1016.9	78	54	65.8	-1.9	86	1+	38	26	0	0	57	78	1.18	-1.27	.64	5	1	.0	0	8.5	NE	23	SW	29	16	8	7	3.9	69
IDAHO																																
Boise	2842	921.8	1018.1	66	40	53.3	.7	83	9	27	31	0	6	33	52	.74	-.20	.33	6	1	T	T	10.4	SE	39	W	5	13	8	10	4.6	70
Idaho Falls 46W CO	4933	850.7	1019.6	62	25	43.9	.0	80	3	10	24	0	27	--	-	.20	-.48	.14	5	0	1	T	8.2		a33	WSW	4		-		---	--
Idaho Falls 42NW CO	4790	-- ---	- - -	63	24	43.1	-1.2	80	3	8	6	0	28		-	.15	-.32	12	4				6.4		a33	SSW	30	-		--	---	--
Lewiston	1413	965.5	1017.2	62	41	51.8	-.1	73	7	31	27	0	1	--	-	1.83	.62	1.09	12	0	T	0	- --	- -	--	---	--	8	9	14	6.4	--
Pocatello	4444	864.9	1018.5	65	34	49.5	.2	82	3+	20	24	0	13	29	50	.24	-.80	10	5	1	T	T	12.8	S	49	W	5+	16	8	7	3.6	84
ILLINOIS																																
Cairo CO	314	1003.4	-----	70	51	60.5	-1.5	86	6	35	31	0	0	--	-	2.80	-.17	1.34	9	5	.0	0	8.3		26	S	23	19	4	8	3.7	72
Chicago	610	990.5	1013.5	65	46	55.5	1.4	79	11	32	25	0	1	44	69	5.37	2.81	2.37	14	4	T	0	10.2	SW	30	SW	20	9	7	15	6.0	60
Moline	589	992.2	1014.5	65	42	53.6	-.3	82	26	29	19+	0	4	43	70	2.70	.43	1.02	9	3	T	0	12.2	S	36	SW	23	11	7	13	5.3	56
Peoria	654	991.9	1014.3	65	44	54.3	-.4	80	11	30	31	0	1	44	68	3.73	1.29	1.79	11	3	T	0	11.6	[illegible]	41	NW	7	12	6	13	5.4	60
Springfield	587	991.5	1014.7	66	44	55.4	-.5	82	6	32	19+	0	2	45	70	6.15	2.94	2.81	12	3	T	0	12.8	S	34	W	7+	13	7	11	5.1	62
INDIANA																																
Evansville	383	1000.3	1016.1	69	46	57.3	-2.0	82	23	30	25	0	2	47	75	3.78	.96	1.81	11	1	T	0	8.7	SSW	31	NW	24	14	5	12	4.8	59
Fort Wayne	801	983.1	1014.1	65	43	54.4	1.2	80	4	29	25	0	2	44	73	6.39	3.77	2.88	11	2	T	T	13.0	SW	37	SW	29	7	7	17	6.3	60
Indianapolis	793	985.4	1015.6	65	44	54.7	-1.2	78	4+	29	25	0	1	44	72	4.27	1.75	1.59	12	1	T	T	11.5	SW	40	SW	23	8	9	14	5.9	58
South Bend	768	985.4	1013.4	65	44	54.2	1.3	79	6	29	25	0	2	46	78	6.01	3.02	3.14	15	5	T	0	11.2	SSW	•38	WSW	7	8	8	15	6.3	--

See footnotes at end of table.

Table 2—Continued

State and station		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
	Elevation (ground)	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	
	Ft.	Mb	Mb.	°F	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	
IOWA																																
Burlington	694	988.8	1014.7	65	43	54.0	-1.0	81	11	28	31	0	3	43	70	3.17	0.22	1.85	9	4	T	0	11.0	S	34	W	23	11	10	10	5.1	71
Des Moines	948	982.7	1014.2	65	43	54.1	-.4	83	11+	27	24+	0	4	40	63	.52	-1.68	.27	8	1	0.2	T	13.3	NW	38	NW	29	16	4	11	4.7	68
Dubuque	1065	987.7	1013.4	61	41	51.1	.2	77	11	29	24	0	6	41	70	3.05	.85	1.00	12	4	1.0	T	----	---	---	---	--	10	6	15	5.9	--
Sioux City	1094	972.6	1014.0	68	41	54.0	1.4	84	26	27	31	0	8	36	56	.39	-1.05	.20	4	2	T	T	15.5	NNW	45	NW	13+	18	4	9	4.2	72
KANSAS																																
Concordia CO	1375	964.8	------	70	46	57.8	.1	87	11	30	24+	0	2	--	62	.76	-.96	.58	5	3	.0	0	7.9	---	28	N	23+	22	3	6	2.9	77
Dodge City	2594	927.2	1014.8	75	45	60.0	2.2	89	11	28	30	0	2	36	49	.07	-1.50	.05	3	0	.0	0	14.3	SSW	52	N	27	19	7	5	3.1	84
Goodland	3645	888.6	1015.3	71	38	54.5	2.4	87	11	23	30	0	10	31	49	.10	-.94	.05	3	1	.2	T	12.9	NNW	•43	NNW	27	17	8	6	3.3	--
Topeka	879	979.3	1015.4	72	44	57.7	-.2	85	11	30	24	0	3	43	63	1.73	-.83	1.27	5	1	.0	0	11.6	SSW	42	SW	11	20	2	9	3.3	72
Wichita	1321	966.5	1015.0	72	46	59.2	-1.0	88	20	31	24	0	2	44	64	5.84	3.66	4.24	5	3	T	T	14.4	S	39	N	23	19	7	5	3.1	75
KENTUCKY																																
Lexington	979	980.4	1016.3	67	47	56.9	-.4	79	6	29	25	0	1	46	72	2.29	-.15	.81	11	3	.0	0	10.9	S	--	---	--	11	8	12	5.3	--
Louisville	474	996.8	1016.1	70	47	58.3	-.3	84	6	31	25	0	1	47	73	4.44	1.99	2.77	10	5	.0	0	9.4	SE	38	SE	28	11	8	12	5.3	56
LOUISIANA																																
Baton Rouge	64	1014.6	1017.6	81	54	67.5	-2.1	92	1	35	31	3	0	54	70	2.20	-.78	1.83	3	3	.0	0	7.1	NNE	---	---	--	19	11	1	2.4	--
Lake Charles	12	1015.9	1017.1	81	58	69.8	-.5	91	3+	44	31	6	0	56	68	2.49	-.95	2.33	3	2	.0	0	6.3	NE	•24	NNE	7	18	13	0	2.6	--
New Orleans CO	9	1014.9	-----	80	64	71.6	-1.2	90	1+	51	30+	2	0	--	--	1.32	-2.34	.70	5	2	.0	0	6.4	---	21	SW	28	20	7	4	2.5	83
New Orleans	3	1014.9	1017.1	80	59	69.3	-2.1	91	1+	42	31	2	0	57	71	.90	-2.28	.64	5	4	.0	0	7.9	ENE	•28	NE	7	21	6	4	2.4	--
Shreveport	252	1008.5	1017.4	80	54	66.7	-1.1	93	6	39	25+	2	0	53	66	1.93	-1.17	.89	5	3	T	0	10.4	S	--	---	--	23	6	2	2.4	94
MAINE																																
Caribou	624	993.0	1016.5	53	35	43.9	1.8	69	10	24	26	0	16	36	75	.63	2.84	.25	10	1	.4	T	11.3	WSW	•29	WSW	25	5	11	5	6.9	--
Portland	61	1012.8	1016.8	58	39	48.5	.1	77	11	23	23	0	8	42	80	6.71	3.73	3.10	13	0	T	T	11.2	WSW	43	E	14	9	9	13	6.0	54
MARYLAND																																
Baltimore CO	14	------	-----	70	51	60.3	1.0	83	7	39	25+	0	0	--	--	7.01	3.64	4.58	8	--	---	--	----	---	---	---	--	--	--	--	---	--
Baltimore	146	1011.6	1016.2	70	46	58.3	1.8	84	7	34	23+	0	0	48	74	5.66	2.29	3,49	8	3	.0	0	8.8	NW	56	NW	24	12	12	7	4.5	63
Frederick	294	- - --	--- --	68	43	55.4	1.4	83	7	30	23	0	4	--	-	3.32	.03	1.76	8	--	.0	0	----	---	---	---	--	--	--	--	---	--
MASSACHUSETTS																																
Blue Hill Obs.	629	992.4	1015.9	61	45	52.2	1.1	79	11	30	23	0	1	--	79	8.12	4.67	2.99	13	0	.0	0	16.8	E	43	S	24	11	6	14	5.9	48
Boston	15	1011.4	1016.0	62	48	55.1	.1	82	11	34	23	0	0	46	74	6.94	4.15	2.51	13	0	.0	0	14.8	SW	•45	WNW	24	11	4	16	6.2	57
Nantucket	43	1015.8	1016.3	61	49	55.1	2.1	74	11+	32	23	0	1	50	78	5.44	1.84	2.73	14	0	.0	0	14.8	ESE	40	E	14	11	10	10	5.7	60
Pittsfield	1153	973.1	1015.9	59	40	49.5	2.0	76	11+	22	23	0	4	--	--	7.01	4.08	2.15	16	1	.4	T	----	---	---	---	--	--	--	--	---	--
MICHIGAN																																
Alpena CO	587	989.5	------	59	43	50.9	3.0	80	10	30	24+	0	4	--	--	2.56	.58	.65	14	2	T	0	10.6	---	41	NW	24	7	12	12	6.4	47
Detroit	619	987.1	1013.7	64	46	55.3	2.4	82	6	32	25	0	1	45	73	4.45	2.16	1.56	14	2	T	T	10.5	SW	38	NW	6	8	7	16	6.4	48
Detroit (Willow Run)	722	985.1	1013.4	65	44	54.5	2.0	82	6	32	25	0	1	44	72	3.77	1.60	1.66	10	2	T	0	11.1	SW	•32	WNW	24	9	8	14	6.2	--
East Lansing CO	856	------	---	65	44	54.6	4.1	79	4+	31	25	0	2	--	--	3.06	.61	1.05	10	3	T	0	4.8	---	15	W	24+	--	--	--	---	48
Escanaba CO	594	988.8	----	57	43	49.8	2.7	68	8+	29	24+	0	2	--	--	3.91	1.87	1.17	12	2	.1	T	11.1	---	32	N	17	6	11	14	6.5	52
Grand Rapids	681	987.1	1012.7	64	44	53.9	3.6	77	4+	30	25	0	2	45	75	2.77	.26	.92	12	2	T	T	9.4	SSW	29	SW	9	8	8	15	6.5	48
Marquette CO	677	983.7	--- --	57	42	49.6	2.1	80	10	30	24	0	2	--	74	3.63	1.37	.86	12	0	2.0	1	8.7	---	26	S	3+	7	4	20	7.2	41
Muskegon	627	989.5	1012.7	62	45	53.8	3.5	74	4	31	22	0	1	44	73	3.68	1.16	.81	15	4	T	0	----	---	---	---	--	10	7	14	6.0	--
Sault Ste. Marie	721	989.2	1012.1	56	40	48.1	3.7	76	10	24	25	0	7	42	82	3.86	.88	.70	15	3	.4	T	9.1	E	30	NW	24	1	11	19	7.9	33
MINNESOTA																																
Duluth	1409	970.2	1011.7	55	35	45.1	1.1	81	10	24	21	0	14	36	73	1.75	-.47	.48	11	1	6.5	4	14.4	NNW	42	W	12	10	5	16	6.3	50
Intern'l Falls	1179	970.2	1011.8	55	33	43.8	1.9	80	9+	21	21+	0	18	34	74	2.22	.41	.71	10	2	4.9	3	11.7	---	---	---	--	8	7	16	6.5	--
Minneapolis	830	979.0	1012.8	61	42	51.4	1.0	83	10+	29	24	0	5	39	67	2.21	.56	1.47	10	1	2.5	1	12.3	NNW	39	NW	12	12	7	12	5.5	55
Rochester	1017	975.3	1012.7	60	39	49.5	.4	81	26	25	15	0	9	39	70	1.42	-.27	.53	7	0	.7	1	10.8	NW	---	---	--	11	4	16	5.9	--
St. Cloud	1034	973.9	1012.3	59	37	47.9	1.3	78	11+	23	21+	0	14	38	74	1.99	.35	.86	9	2	.1	T	7.4	NW	---	---	--	12	6	13	5.3	--
MISSISSIPPI																																
Jackson	305	1005.4	1017.4	79	48	63.7	-2.7	92	5+	30	26	3	2	48	65	.53	-1.65	.27	5	2	.0	0	6.9	SSE	30	NW	14	18	10	3	2.6	80
Meridian	294	1003.0	-- ---	79	47	62.9	-1.8	92	6	28	26	2	4	--	--	1.16	-1.22	.73	2	2	.0	0	----	---	---	---	--	21	7	3	2.7	--
Vicksburg CO	234	1008.1	------	77	55	66.1	-1.6	90	6	40	31	1	0	--	--	.40	-1.82	.34	4	1	.0	0	8.0	---	28	NW	14	19	9	3	2.6	83
MISSOURI																																
Columbia	778	986.5	1014.9	70	45	57.6	-.5	83	6	32	31	0	1	44	65	5.48	2.27	4.05	6	4	.0	0	10.8	S	36	NW	23	14	9	8	4.2	67
Kansas City	741	980.4	1015.2	71	49	60.0	.4	84	11	35	24	0	0	43	58	2.78	-.15	1.93	8	4	T	0	11.8	SSW	37	S	11	20	3	8	3.5	72
St. Joseph	809	- --	- -	69	44	56.5	1.6	84	11	29	31	0	4	--	--	2.68	.15	.99	7	2	T	0	11.0	---	---	---	--	20	2	9	3.6	--
St Louis CO	465	994.9	-----	68	50	58.9	-1.7	84	11	38	30+	0	0	--	--	4.27	1.37	1.47	9	4	T	0	13.3	---	49	SW	6	13	8	10	5.0	60
St. Louis	552	994.9	1015.4	69	47	58.3	-1.1	86	6	36	31	0	0	45	65	2.73	-.35	.98	9	3	T	0	10.4	S	---	---	--	13	8	10	5.0	--
Springfield	1265	968.2	1014.6	70	45	57.4	-1.0	85	6	31	24	0	1	44	67	2.28	-1.12	1.70	5	4	.0	0	14.1	S	46	S	5	19	6	6	3.5	69
MONTANA																																
Billings	3568	890.3	1014.1	66	40	53.4	4.2	83	9+	22	23	0	5	34	51	1.26	.12	.35	8	0	5.0	2	12.8	SW	56	NW	4	10	11	10	5.2	75
Glasgow	2090	938.7	1013.6	65	35	49.8	3.3	92	10	18	23	1	12	28	48	.10	-.70	.07	3	0	T	T	8.6	WNW	---	---	--	10	9	12	5.	--
Great Falls	3664	886.9	1013.8	62	39	50.4	2.3	80	3	18	31	0	6	27	46	.54	-.18	.24	5	0	2.0	1	16.2	SW	49	SW	24	11	8	12	5.	49
Havre	2488	924.1	1013.5	63	35	48.7	1.9	81	14	22	23	0	13	29	53	.11	-.57	.04	5	0	.4	T	8.8	---	34	SW	14+	9	7	15	6.3	47
Helena	3893	873.4	1016.1	62	33	47.7	2.6	80	3+	19	23	0	14	29	54	.19	-.49	.11	6	0	3.0	1	9.3	W	40	W	5	11	7	13	5.8	60
Kalispell	2965	------	- - -	54	34	43.9	-.5	69	25	23	23+	0	15	--	--	1.61	.25	.69	14	0	1.0	1	----	---	---	---	--	4	10	17	7.1	--
Miles City	2629	929.6	1014.6	68	36	51.8	3.5	90	9	19	23	1	10	30	--	.63	-.31	.35	5	0	.6	T	9.5	NW	•29	NW	12	13	9	9	4.5	--
Missoula	3200	903.2	1018.3	59	33	45.9	1.0	73	25	20	24	0	17	34	66	.48	-.59	.18	8	0	.6	T	5.5	NW	38	NW	30	7	7	17	6.5	54
NEBRASKA																																
Grand Island	1841	948.5	1014.9	68	40	54.3	.3	83	11	23	24	0	6	37	58	.22	-1.09	.17	2	1	T	T	12.4	NNW	---	---	--	21	4	6	3.1	--
Lincoln CO	1166	- - --	--- -	68	45	56.5	.1	84	11	30	24	0	1	--	--	.57	-1.09	.46	4	0	.0	0	11.6	---	44	S	11	21	4	6	3.2	78
Norfolk	1544	959.0	1014.7	67	38	52.7	.6	83	11+	25	24+	0	11	36	56	.22	-1.14	.10	4	2	.5	T	----	---	---	---	--	17	5	9	4.0	--
North Omaha	1323	966.1	------	66	42	54.1	---	82	11	27	24	0	5	--	--	.48	----	.37	3	0	.0	0	----	---	---	---	--	--	--	--	---	--
North Platte	2779	916.0	1015.3	69	33	50.8	.9	87	9	15	30	0	19	36	63	.08	-.96	.05	2	1	T	0	10.1	NW	54	N	29	15	9	7	4.2	69
Omaha	978	974.6	1014.7	68	43	55.4	-.1	84	11	29	31	0	4	39	59	.40	-1.33	.29	5	2	.0	0	12.2	SSE	45	N	23	20	4	7	3.4	77
Scottsbluff	3950	879.4	1015.8	68	34	51.1	.6	86	9+	19	30+	0	13	32	55	.24	-.77	.20	5	1	.9	1	10.2	WNW	---	---	--	17	8	6	3.6	--
Valentine CO	2581	922.5	------	67	35	51.1	.5	89	10	18	30	0	14	--	--	.22	-.95	.13	3	1	T	T	11.5	---	42	N	27	14	11	6	4.3	73
NEVADA																																
Elko	5075	848.0	1019.3	69	26	47.2	-.2	81	17	13	24	0	27	25	46	.21	-.60	.14	2	1	T	0	4.6	WSW	•32	WSW	30	19	6	6	3.0	--
Ely	6257	812.1	1019.4	67	28	47.3	.4	77	14	13	27	0	24	20	37	.04	-.78	.02	2	1	.0	0	10.1	---	37	SW	10	21	4	6	2.6	82
Las Vegas	2162	948.2	1012.8	85	54	69.8	2.4	94	3	41	28	9	0	24	20	T	-.32	T	0	1	.0	0	8.8	W	•33	NE	27	25	4	2	1.8	91
Reno	4397	864.2	1018.4	72	30	50.7	.0	82	1	18	27+	0	20	29	49	.04	-.51	.04	1	1	.0	0	5.4	SSW	57	S	26	21	8	2	2.5	94
Winnemucca	4299	870.6	1018.6	71	28	49.5	.9	85	17	11	31	0	22	26	43	.10	-.69	.07	3	0	.0	0	8.1	---	37	W	30	21	4	6	3.2	79
NEW HAMPSHIRE																																
Concord	339	1005.6	1016.5	60	37	48.6	.6	80	11	18	23	0	11	41	79	4.34	1.54	1.47	13	0	T	T	6.2	NNW	34	NE	14	8	9	14	6.5	47
Mt. Washington	6262	804.7	----	37	25	31.2	-.5	54	7	6	25	0	27	--	92	8.07	2.17	2.03	19	0	12.8	4	37.5	W	X103	ESE	15	3	9	19	7.6	33
NEW JERSEY																																
Atlantic City CO	8	1013.6	-----	67	54	60.5	2.5	80	11	42	23+	0	0	--	--	3.70	.49	2.08	7	1	.0	0	15.2	---	60	E	14	11	12	8	4.9	72

See footnotes at end of table

Table 2-Continued

State and station		Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet, Hail		Wind		Fastest mile			No. of days (sunrise to sunset)				
	Elevation (ground)	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
NEW JERSEY (Cont'd.)																																
wark	11	1014.4	1015.5	68	50	58.8	3.2	83	11	36	23+	0	0	49	75	6.70	3.50	1.59	10	1	0.0	0	10.1	SSW	46	ENE	14+	11	7	13	5.6	--
enton CO	56	1008.2	------	68	50	58.7	2.6	83	7	37	23	0	0	--	--	6.77	4.12	3.25	9	5	.0	0	8.6	---	38	NW	24	12	6	13	5.3	62
NEW MEXICO																																
buquerque	5310	850.7	1014.9	75	47	61.1	2.9	83	1	34	7+	0	0	29	33	.06	-.58	.06	1	1	.0	0	8.3	SE	40	NW	27	24	4	3	2.3	91
ayton	4969	846.6	1015.3	73	41	57.0	1.9	83	11+	23	24	0	5	-	--	.06	-1.24	.06	1	2	.0	0	----	---	---	--	--	21	6	4	2.6	--
swell	3612	895.0	1016.0	78	45	61.2	.3	88	11+	32	30+	0	2	39	55	1.71	.73	1.61	4	2	.0	0	8.5	---	42	NE	23	22	3	6	2.7	--
NEW YORK																																
bany	277	1011.6	1015.4	62	43	52.4	1.7	79	11	24	23	0	3	45	78	8.83	6.62	2.46	13	1	T	T	7.7	S	37	W	24	7	8	16	6.7	36
nghamton	1601	955.2	1014.6	60	42	51.3	3.0	76	7	28	23	0	4	44	78	9.43	6.39	3.88	13	1	T	0	12.8	S	66	W	24	7	8	16	7.9	44
ffalo	693	986.0	1014.2	62	46	54.0	2.8	82	7	32	25	0	1	46	78	8.12	5.63	3.11	14	3	T	T	12.8	S	42	SW	7	4	9	18	7.1	48
w York CO	10	1004.5	------	66	53	59.7	2.7	84	11	41	25	0	0	--	--	7.61	4.57	2.17	11	2	.0	0	12.4	---	57	W	24	12	7	12	5.3	60
w York	19	1014.0	1015.2	69	54	61.2	3.6	86	11	42	25	0	0	49	68	7.14	4.23	1.69	10	2	.0	0	12.8	WSW	56	E	14	11	8	12	5.6	--
chester	543	994.4	1013.8	63	44	53.5	2.7	83	7	32	23+	0	2	46	78	7.85	5.35	2.44	14	2	T	T	11.1	WSW	46	W	24	6	8	17	7.4	41
henectady	217	------	------	62	45	53.6	3.3	79	11	29	23	0	1	--	--	9.87	7.21	2.20	12	1	T	T	----	---	---	---	--	--	--	--	5.0	--
racuse	424	992.3	1015.2	63	45	54.0	1.6	83	7	32	23+	0	2	45	75	8.29	5.25	3.60	16	1	.8	T	11.9	WSW	40	NW	7+	7	9	15	6.7	47
NORTH CAROLINA																																
eville	2203	------	------	68	45	56.4	-.6	81	11	32	17+	0	2	--	--	1.35	-1.19	.71	10	0	.0	0	7.5	---	26	NW	24	16	7	8	3.8	72
arlotte	727	989.2	1017.3	74	48	61.0	-.5	85	7	36	25+	0	0	49	73	4.70	1.71	4.84	7	1	.0	0	8.0	NNE	26	NW	24	16	6	9	4.1	77
eensboro	891	985.6	1017.6	70	46	57.9	-1.1	81	7+	32	25	0	1	48	77	1.93	-.67	.30	6	1	.0	0	8.3	SW	29	NW	24	13	6	12	4.7	70
tteras CO	4	1016.2	1016.5	73	61	66.7	.4	81	1+	47	26	0	0	57	71	2.42	-1.63	1.08	8	3	.0	0	12.5	NNE	42	NW	25	16	7	8	3.9	84
leigh	433	1001.4	1017.1	72	47	59.4	-1.7	83	7	34	25	0	0	50	77	1.96	-.86	.80	6	1	.0	0	7.2	S	•22	NW	24	13	8	10	4.6	67
lmington	30	1015.7	------	75	52	63.8	-1.5	85	1+	37	26	0	0	-		1.43	-1.35	.91	7	1	.0	0	9.6	---	26	S	14	16	11	4	3.6	77
nston-Salem	967	982.2	1017.5	71	48	59.6	-.2	82	11	37	25+	0	0	50	74	2.08	1.05	.84	9	0	.0	0	8.5	NW	•23	NNW	8+	14	5	12	4.8	--
NORTH DAKOTA																																
smarck	1650	953.3	1013.8	64	34	48.6	2.9	88	10	17	24	0	15	31	58	.26	-.74	.26	1	0	.1	T	10.6	WNW	42	NW	11	13	12	6	4.3	80
vils Lake CO	1471	959.0	------	58	33	45.7	1.8	84	10	17	24	0	15	--	-	.91	-.35	.38	6	1	3.2	3	8.7	---	34	NW	11	16	8	7	4.1	79
rgo	895	978.0	1012.9	61	35	47.7	1.6	86	10	13	24	0	14	33	59	.34	-.92	.17	5	0	T	0	16.1	S	56	N	29	12	9	10	4.8	70
lliston CO	1877	945.5	1013.4	62	34	48.3	2.8	90	10	21	23	1	13	30	53	.41	-.36	.28	4	0	1.5	1	6.9	---	28	NW	24	7	12	12	6.0	67
OHIO																																
ron	1210	977.7	1015.9	63	42	52.4	-.6	79	7	29	25	0	1	43	76	3.53	1.14	1.24	13	2	T	T	11.2	SW	---	---	--	9	6	16	6.3	--
ncinnati Obs.	761	------	------	67	46	56.8	-.6	79	4+	33	25	0	0	--	--	4.70	2.51	2.15	12	2	T	0	5.6	--	22	SW	24	--	--	--	---	63
ncinnati	869	983.7	1015.7	67	46	56.1	.1	79	4	28	25	0	2	44	69	4.49	2.32	2.13	11	3	T	0	10.4	SSW	•30	SW	28	10	8	13	5.8	--
eveland	787	986.5	1014.5	65	45	54.8	.4	83	4	33	25	0	0	45	72	5.88	3.46	1.55	14	3	T	T	12.0	S	41	W	24	8	7	16	6.5	48
lumbus CO	724	------	------	65	46	55.6	-.5	80	4	31	25	0	1	--	-	1.92	-.08	.41	10	--	.0	0	----	---	---	---	--	--	--	--	---	--
lumbus	815	985.9	1015.9	67	44	55.2	.7	80	4	28	25	0	1	44	71	1.95	-.23	.53	12	0	T	0	8.5	SSW	34	W	24	9	8	14	5.8	64
yton	1002	979.0	1015.4	65	45	55.1	.0	78	4	29	25	0	2	44	71	2.85	.55	.76	11	1	T	0	11.2	SSW	35	W	24	9	7	15	5.8	64
ndusky CO	603	991.7	------	65	47	55.9	.9	80	6	32	25	0	1	--	--	2.92	.82	1.06	11	3	T	0	8.3	---	30	NW	24	10	7	14	6.0	54
ledo	676	988.6	1014.0	65	43	53.9	---	81	4	30	22+	0	3	45	76	4.24	----	1.60	10	2	T	0	11.8	SW	36	SW	29	10	6	15	6.1	59
ungstown	1178	972.7	1015.5	62	42	52.2	-1.7	78	4+	29	22	0	3	44	78	5.14	2.37	1.40	14	0	1.0	1	9.6	SSW	•40	W	7	9	5	17	6.6	--
OKLAHOMA																																
lahoma City	1280	972.9	1016.6	73	49	61.0	-2.2	85	5+	34	24	0	0	45	62	8.34	5.68	4.82	4	2	.0	0	13.7	S	42	NW	28	19	7	5	3.1	79
lsa	672	991.2	1015.7	75	50	62.4	-1.0	86	5+	38	24+	0	0	47	61	4.34	1.25	4.08	5	2	.0	0	12.1	S	31	S	23+	19	6	6	3.0	79
OREGON																																
oria	8	1016.3	1016.8	59	45	52.2	-1.9	76	13	37	31	0	0	49	87	12.24	5.09	1.76	21	1	T	T	6.9	SE	---	---	--	5	4	22	7.6	--
ns CO	4140	874.7	1018.1	66	33	49.5	2.3	79	17	18	27	0	13	32	54	.41	-.39	.13	6	1	1.2	1	----	---	---	---	--	11	10	10	4.9	--
gene	361	1004.7	1018.4	62	43	52.6	-.1	76	1	35	6	0	0	--	--	6.89	3.32	3.85	14	0	T	T	5.2	---	---	---	--	1	11	19	7.9	--
icham	4050	------	------	56	37	46.1	.6	70	16+	26	30+	0	7	--	--	3.38	.44	.85	15	1	3.8	3	----	---	---	---	--	8	6	17	6.4	--
dford	1312	970.9	1018.8	68	42	54.9	.4	84	13	32	6+	0	2	44	74	2.19	.28	.94	6	1	.0	0	3.4	S	•23	SW	31	6	12	13	6.6	--
ndleton	1492	963.4	1017.3	63	43	52.8	-.8	74	25	34	31	0	0	42	67	2.08	.90	.82	12	1	T	T	8.8	SE	•48	W	25	10	7	14	5.7	--
rtland	21	1011.9	1017.4	61	46	53.6	-1.1	75	13	38	6	0	0	48	84	6.69	3.52	2.14	17	0	T	T	7.1	ESE	35	S	7	6	5	20	7.6	28
seburg	505	1000.0	1019.0	65	43	54.0	---	81	13	33	6	0	0	--	--	3.67	.74	1.42	14	0	.0	0	3.8	---	28	S	8	1	13	17	7.9	35
em	195	1010.2	1017.7	63	44	53.2	-1.3	79	13	34	6	0	0	48	82	7.78	4.08	2.84	14	0	.0	0	8.0	S	---	---	--	4	6	21	7.5	--
kton Summit CO	3836	------	------	58	44	50.9	.6	77	16+	29	31	0	2	--	-	2.84	-1.00	1.08	11	1	3.6	1	----	---	---	---	--	10	9	12	5.6	--
PENNSYLVANIA																																
entown	376	1001.9	1016.0	66	44	55.4	2.2	81	11	28	26	0	3	48	80	6.84	3.87	2.96	12	2	.0	0	10.1	WSW	-	---	-	10	7	14	5.8	--
risburg	335	1002.1	1015.8	67	46	56.9	1.7	82	7	33	26	0	0	46	72	5.01	1.94	2.54	13	2	.0	0	6.5	W	38	W	24	11	4	16	5.8	61
ladelphia CO	26	------	------	68	53	60.6	2.1	82	7	43	23+	0	0	-	--	4.82	2.21	2.65	8	--	---	--	----	---	---	---	--	--	--	--	---	--
ladelphia	10	1011.2	1015.6	69	49	59.1	2.5	84	7	36	23	0	0	50	75	4.53	1.93	2.59	9	1	T	0	9.1	SSW	64	NE	14	10	11	10	5.6	54
tsburgh CO	749	------	------	66	47	56.3	.4	84	7	35	25	0	0	--	--	3.27	.78	.88	12	--	.0	--	----	---	---	---	--	--	--	--	---	45
tsburgh	1151	985.4	1015.8	63	44	53.3	.3	80	7	30	25	0	1	44	73	2.79	.35	.57	15	0	T	0	10.1	WSW	•35	SW	24	9	6	16	6.4	61
ding CO	266	1003.5	1015.6	68	49	58.5	2.4	81	7+	34	23	0	0	--	--	5.68	2.93	1.47	12	1	.0	0	10.6	---	52	NE	14	11	6	14	5.6	53
anton	940	981.4	1015.9	64	44	53.9	1.7	79	11	31	23	0	3	46	75	6.95	3.57	2.34	11	2	.3	T	7.2	SW	50	SE	14	8	8	15	6.2	43
ppingport CO	736	------	------	64	42	53.3	---	82	7	30	22	0	2	--	--	2.54	---	.67	13	2	.0	0	2.5	---	%42	WNW	24	--	--	--	---	--
lliamsport	527	996.4	------	65	43	54.1	1.1	80	11	30	26	0	3	--	--	7.78	4.41	4.38	13	--	T	0	---	---	---	---	--	10	6	15	6.4	--
RHODE ISLAND																																
ck Island	110	1011.2	1015.3	62	51	56.5	2.0	75	12	35	23	0	0	--	--	8.74	5.64	6.63	11	1	.0	0	----	--	---	---	--	14	3	14	5.5	--
ovidence	55	1010.0	1016.1	64	45	54.4	1.7	82	11	26	23	0	3	46	76	7.00	4.17	2.24	11	0	.0	0	9.1	SW	•39	SSW	24	13	5	13	5.5	51
SOUTH CAROLINA																																
arleston CO	9	------	------	75	60	67.6	-.6	86	8	49	19+	0	0	--	--	1.24	-1.20	.71	3	2	.0	0	9.4	--	25	SW	29	17	5	9	4.0	76
arleston	41	1015.6	1017.2	76	53	64.2	-2.3	85	7	36	26	0	0	55	79	1.22	-1.51	.47	4	2	.0	0	9.4	NNE	---	---	--	14	11	6	4.0	--
lumbia	217	1008.8	1017.1	77	48	62.4	-2.5	89	7	34	26	0	0	51	75	2.55	.13	1.97	4	2	.0	0	6.3	WSW	•22	WNW	24+	17	7	7	3.7	85
orence	146	1011.5	------	76	51	63.6	-.5	88	7	37	26	0	0	--	--	1.30	-.97	.80	5	1	.0	0	--	---	---	---	--	17	9	5	3.6	--
eenville	1018	979.6	1016.9	72	50	60.6	-1.9	82	6+	36	26	0	0	46	65	3.72	.26	1.88	9	2	.0	0	9.7	NE	38	NW	24	15	9	7	4.1	69
artanburg	801	------	------	72	50	60.8	-1.4	83	6+	34	25	0	0	--	--	3.23	-.17	1.42	7	2	.0	0	7.9	NE	•37	WSW	29	--	--	--	---	--
SOUTH DAKOTA																																
ron	1282	966.1	1013.4	65	36	50.6	.6	86	9	18	24	0	13	34	59	.25	-1.01	.12	5	1	T	T	12.8	SSE	45	NW	13	13	10	8	4.5	74
id City	3165	900.8	1014.8	66	37	51.8	2.7	88	10	25	30+	0	8	31	51	.26	-.87	.16	7	0	.8	1	9.9	NW	42	NW	11	16	7	8	4.1	70
ux Falls	1420	962.1	1013.8	66	38	51.5	1.5	85	10	17	24	0	10	33	54	.82	-.64	.74	6	1	.1	0	12.4	S	•46	NNW	29	14	9	8	4.5	--
TENNESSEE																																
istol	1519	962.5	------	70	44	56.9	-1.0	83	7	29	25	0	2	--	--	1.89	-.50	1.20	9	--	.0	0	----	---	---	---	--	13	7	11	4.6	--
attanooga	670	990.7	1017.9	73	45	59.0	-1.8	84	3	30	26	0	3	47	72	1.94	-1.30	1.16	5	1	.0	0	5.3	SSW	34	SW	30	12	10	9	4.7	66
oxville	950	982.3	1017.9	70	47	58.8	-1.5	83	3	33	25	0	0	48	72	3.20	.57	2.10	8	1	.0	0	6.3	WSW	34	W	28	13	9	9	4.5	59
mphis CO	271	------	------	73	54	63.2	-1.8	88	6	41	31	0	0	--	-	2.06	-1.12	.73	5		.0	0	----	---	---	---	--	--	--	--	---	--
mphis	263	1002.5	1017.3	75	50	62.2	-1.4	89	6	35	25+	0	0	49	66	2.47	-.80	1.58	6	2	.0	0	9.9	S	47	W	28	19	5	7	3.6	79
shville	577	997.3	1017.4	72	48	59.9	-1.9	88	6	32	25	0	1	48	70	2.04	-.48	1.05	4	0	.0	0	7.3	SSE	38	NW	24	15	6	10	4.4	66
k Ridge CO	905	983.9	------	69	45	57.2	-1.2	81	3	29	25	0	1			2.07	-.35	1.46	5	2	.0	0	3.9	-	24	SW	28	14	8	9	4.9	--
TEXAS																																
ilene	1759	955.3	1016.0	80	53	66.8	.6	89	15	35	30	0	0	46	52	1.04	1.53	.72	4	3	.0	0	12.1	SSW	43	N	23	21	7	3	2.4	91
arillo	3590	890.3	1015.3	75	45	59.8	1.1	89	20	28	24+	0	3	35	46	.13	-1.80	.13	2	0	.0	0	12.2	SW	63	N	23	21	3	7	3.0	82
stin	615	995.3	1017.0	85	58	71.4	.5	95	5	40	26	9	0	49	53	.09	-2.86	.05	2	0	.0	0	9.6	S	35	N	6	20	5	6	2.7	83

See footnotes at end of table.

CLIMATOLOGICAL DATA

State and station	Elevation (ground)	Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet, Hail		Wind		Fastest mile			No. of days (sunrise to sunset)				
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb.	°F.	°F.	°F.	°F.	°F.		°F.		#		°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
TEXAS (Cont'd)																																
Brownsville	16	1013.9	1016.1	85	65	74.8	-1.2	91	1	53	26	7	0	63	72	2.05	-0.90	1.88	4	1	0.0	0	9.6	SE	29	N	7	17	8	6	3.	69
Corpus Christi	40	1015.6	1016.7	84	62	72.7	-1.2	93	6	50	26	5	0	61	72	1.55	-.91	1.15	4	3	.0	0	8.4	SE	46	N	7	20	6	5	3.	87
Dallas	487	998.6	1017.3	82	55	68.4	-.4	93	6	38	25	3	0	49	54	.82	-1.85	.79	2	2	.0	0	11.8	SSE	37	SW	31	19	7	5	2.	79
Del Rio	1091	981.7	1016.4	85	57	71.0	-.5	95	12	40	25	6	0	47	46	.04	-2.16	.04	1	1	.0	0	9.6	---	33	NW	6	24	4	3	2.	86
El Paso	3920	887.6	1015.0	80	53	66.3	1.1	90	12	41	30	1	0	37	37	.73	-.10	.42	3	1	.0	0	9.9	N	47	W	27	21	3	7	2.	86
Fort Worth	544	996.6	1017.5	82	55	68.3	-.2	92	6	35	25	3	0	47	52	.20	-2.49	.14	3	2	.0	0	12.0	S	*31	N	23	19	9	3	2.	--
Galveston CO	7	------	------	79	68	73.5	-.1	87	3	56	25	0	0	--	--	2.68	-.91	1.52	7	--	.0	0	12.3	---	40	SW	28	--	--	--	--	87
Galveston	5	1014.9	1017.3	80	67	73.4	-.4	89	6	54	18+	0	0	61	67	1.71	-2.13	.75	6	1	.0	0	16.4	S	---	---	--	17	13	1	2.	--
Houston CO	41	1010.2	--- --	82	62	72.1	-.5	92	1	47	25	3	0	-	---	.71	-2.68	.51	4	2	.0	0	9.5	---	27	NW	28	18	11	2	2.	87
Houston	50	1014.6	1017.2	82	59	70.7	-.7	92	5	43	30	3	0	55	64	.63	-3.07	.39	4	2	.0	0	11.4	SE	---	---	--	17	12	2	3.	--
Laredo	500	1001.0	1015.9	87	62	74.8	-1.7	95	5+	48	25	7	0	55	56	.54	-1.03	.32	3	1	.0	0	8.9	SSE	*28	NNE	7	20	5	6	2.	--
Lubbock	3243	904.8	1016.0	75	46	60.4	-.8	87	19	28	30	0	3	44	60	4.53	2.46	2.48	4	3	.0	0	12.9	SW	*40	N	27	22	4	5	2.	--
Midland	2854	917.7	1016.1	80	51	65.7	-.9	88	15	34	25	0	0	42	48	1.04	-.74	.79	2	1	.0	0	8.1	S	*32	NNE	23	22	4	5	2.	--
Port Arthur	16	1016.3	1017.4	81	58	69.3	-1.2	90	1+	43	18	2	0	58	71	1.90	-1.03	1.85	4	2	.0	0	10.5	N	42	S	28	18	13	0	2.	87
San Angelo	1903	949.9	1016.5	82	54	68.0	.0	92	5	31	25	2	1	43	46	.08	-2.17	.08	1	4	.0	0	10.3	SSW	*37	NNE	23	23	5	3	2.	--
San Antonio	792	992.2	1016.9	85	57	70.5	-.8	93	5	38	26	6	0	48	51	.39	-1.71	.31	3	1	.0	0	8.8	N	40	NE	13	21	6	4	2.	87
Victoria	110	1012.2	1016.6	83	59	71.3	-2.3	90	2+	45	25+	3	0	56	62	1.65	-1.23	1.20	5	1	.0	0	8.2	---	%44	N	6	20	9	2	2.	--
Waco	500	995.9	1016.9	83	55	68.7	-.7	92	5	35	25	6	0	50	56	2.38	-.03	1.45	2	4	.0	0	10.4	S	---	---	--	23	4	4	2.	--
Wichita Falls	1027	979.7	1016.1	78	51	64.7	-.6	88	5+	35	30	0	0	47	56	2.23	-.55	1.48	4	2	.0	0	10.5	S	*29	NW	28	23	3	5	2.	--
UTAH																																
Milford	5028	846.9	1018.7	71	32	51.8	1.7	81	3+	20	28	0	14	-	--	.17	-.71	.14	3	3	.0	0	----	---	---	---	--	22	5	4	2.	--
Salt Lake City	4222	870.3	1018.6	67	39	52.8	-.1	85	10	25	31	0	5	35	54	.90	-.44	.44	6	1	T	T	8.1	SE	31	NW	19	18	7	6	3.	76
VERMONT																																
Burlington	331	1000.7	1015 4	59	42	50.7	2.5	74	7+	25	23	0	5	41	73	4.31	1.42	1.30	12	1	T	T	8.6	S	38	S	24	6	6	19	7.	36
VIRGINIA																																
Lynchburg	947	983.4	------	69	46	57.5	-.3	81	6+	32	25	0	1	--	--	.95	-1.92	.59	5	0	.0	0	7.6	---	27	SW	24	14	7	10	4.	67
Norfolk	26	1015.7	1016.8	72	53	62.5	1.3	84	7	40	25+	0	0	52	74	1.48	-.97	.56	6	2	.0	0	9.9	SSW	34	NW	24	17	7	7	4.	78
Richmond	162	1011.0	1017.0	71	48	59.5	.7	85	7	35	23+	0	0	50	76	2.57	-.04	1.35	8	1	.0	0	7.2	S	29	NW	24	14	9	8	4.	68
Roanoke	1174	975.4	1017.1	70	46	58.1	.2	86	6	35	25+	0	0	45	68	1.61	-1.78	.83	5	0	.0	0	6.7	SE	---	---	--	12	9	10	5.	--
WASHINGTON																																
Olympia	190	1009.1	1016.6	59	42	50.1	-.9	71	1+	31	6	0	1	45	84	9.31	4.81	1.71	19	0	T	0	7.7	SSW	*32	S	27	1	7	23	8.	--
Seattle CO	14	- - -	----	59	48	53.0	-1.4	69	1	42	31	0	0	--	--	5.33	2.25	1.35	14	1	.0	0	9.9	---	35	SW	29	3	4	24	8.	33
Seattle	14	1015.9	1016.5	--	--	----	---	--	--	--	--	--	--	46	82	---	----	----	--	--	---	--	7.5	SSE	---	---	--	--	--	--	--	--
Seattle-Tacoma	379	1002.4	1016.7	57	44	50.4	-1.3	68	13	37	6+	0	0	47	89	6.60	3.28	1.66	16	0	.0	0	12.9	SSW	*35	SW	28	1	7	23	8.	--
Spokane	2357	947.5	1017.1	56	38	47.1	-1.5	69	7	26	31	0	5	39	77	2.84	1.51	.98	12	0	T	0	7.7	SSW	29	S	7	4	8	19	7.	38
Stampede Pass CO	3958	878.8	1018.2	45	34	39.8	-2.6	60	16	25	30	0	14	--	--	16.48	7.14	2.87	19	0	26.9	15	----	---	---	---	--	4	7	20	7.	--
Tatoosh	101	1011.9	1015.2	55	47	50.7	-1.2	62	13	40	31	0	0	47	87	10.87	2.15	1.50	22	1	.0	0	15.2	S	66	S	8	3	6	22	8.	32
Walla Walla CO	949	981.0	1016.9	64	46	54.5	-.7	79	25	35	31	0	0	-	--	3.03	1.55	1.34	14	0	.0	0	5.2	---	24	SW	30	11	7	13	5.	55
Yakima	1061	977.3	1016.7	63	36	49.2	-1.4	72	2+	22	31	0	6	40	70	1.24	.62	.71	6	1	.5	1	6.3	WNW	---	---	--	9	8	14	6.	--
WEST VIRGINIA																																
Charleston	950	980.5	1016.6	68	46	57.1	-.3	86	7	29	25	0	1	46	72	2.59	-.22	1.19	11	1	.0	0	5.9	SW	*32	WNW	24	6	12	13	6.	--
Elkins	1970	- ---	- -	65	38	51.7	.0	83	7	27	25+	0	11	43	--	2.78	-.08	.89	12	1	T	0	5.2	NW	*46	WNW	7	6	10	15	6.	--
Huntington CO	565	------	---- -	70	47	58.1	-1.1	82	3+	31	25	0	1	-	--	1.95	-.48	.86	9	--	.0	0	----	---	---	---	--	--	--	--	--	--
Parkersburg CO	615	- ----	-- -	67	45	56.4	-.5	84	7	32	25	0	1	--	--	2.61	.49	.56	11	1	.0	0	5.6	---	31	NW	24	11	8	12	5.	[illegible]
WISCONSIN																																
Green Bay	689	989.2	1011.9	60	40	49.9	1.5	77	10+	28	19	0	6	41	75	3.58	1.78	1.09	11	3	T	0	10.8	SW	36	SE	29	9	6	16	6.	41
La Crosse	652	987.5	1012.1	61	42	51.8	1.0	80	9+	30	19	0	3	41	69	1.39	-.54	.47	11	2	T	T	11.3	S	*27	W	12	10	4	17	6.	--
Madison	857	977.0	1012.5	62	41	51.5	1.1	78	11	28	22	0	4	42	73	3.24	1.16	1.48	14	1	T	T	10.3	SSW	37	NW	23	9	4	18	6.	61
Milwaukee	675	987.5	1012.4	63	43	52.9	1.5	79	6	30	24	0	3	43	72	3.57	1.60	.71	12	2	T	T	15.7	SSW	40	SW	23+	10	9	12	6.	[illegible]
WYOMING																																
Casper	5322	837.8	1014.9	64	36	50.4	4.0	78	2	22	23+	0	11	20	39	.47	-.64	.15	7	0	4.2	1	16.1	SW	*46	SW	8	18	7	6	3.	--
Cheyenne	6131	812.7	1015.7	64	35	49.5	3.1	79	10	19	23	0	7	24	43	.18	-.95	.10	6	0	.5	T	14.4	W	55	NW	31	20	5	6	3.	[illegible]
Lander	5563	836.4	1016.8	64	35	49.7	5.1	79	9	18	28	0	12	24	42	.57	-.96	.47	2	0	6.1	4	7.6	---	43	SW	30	18	8	5	3.	[illegible]
Sheridan	3942	883.8	1015.9	68	35	51.0	4.4	86	10	15	23	0	13	29	50	1.21	-.06	.32	9	2	8.1	5	8.5	WNW	43	NW	4	14	11	6	4.	[illegible]
PACIFIC AREA																																
Canton Island	9	1010.5	1010.9	87	77	82.1	-2.0	88	6+	75	28	0	0	70	70	.15	-.24	.10	5	0	.0	0	----	---	---	---	--	15	7	9	4.	--
Hilo	31	1014.6	1015.9	80	65	72.7	-1.8	84	14	62	11	0	0	66	79	5.64	-5.38	1.49	26	2	.0	0	7.8	WSW	*25	N	19	0	6	25	8.	[illegible]
Honolulu	7	1015.6	1016.4	82	70	76.0	-2.2	84	17+	64	21	0	0	65	70	.37	-1.52	.26	5	1	.0	0	10.4	ENE	30	NE	5+	4	12	15	6.	60
Koror CO	94	1006.1	1009.1	88	75	81.4	.3	90	17+	73	2+	4	0	76	84	14.27	1.73	2.95	25	6	.0	0	----	---	---	---	--	0	9	22	8.	--
Lihue	115	1010.8	1016.2	82	69	75.2	-1.3	85	19	63	21	0	0	67	78	4.83	.20	2.93	21	2	.0	0	10.9	ENE	31	NE	6	3	13	15	7.	[illegible]
Majuro	10	1009.5	1009.8	85	75	79.8	---	87	2+	71	20	0	0	75	85	24.26	----	7.19	29	2	.0	0	----	---	---	---	--	0	8	23	8.	--
Ponape CO	112	1005.4	1010 8	87	72	79.5	-1.2	92	14	68	15	5	0	75	87	16.21	-.18	2.66	25	5	.0	0	----	---	---	---	--	1	4	26	8.	--
Truk (Moen Island)	8	1010.2	1010.5	86	75	80.0	-.7	88	16	72	10+	0	0	76	86	22.42	11.39	2.70	26	5	.0	0	----	---	---	---	--	1	6	24	8.	--
Wake Island	11	1013.9	1014.2	85	76	80.6	-.8	87	3+	71	13	0	0	73	77	6.93	.89	1.99	23	1	.0	0	16.4	ENE	---	---	--	9	14	8	5.	--
Yap CO	53	1008 1	1010.1	88	75	81.2	-.7	92	10+	72	2+	12	0	76	85	15.35	2.53	2.07	23	0	.0	0	----	---	---	---	--	1	3	27	9.	--
WEST INDIES																																
San Juan CO	47	------	------	86	75	80.3	.2	94	14	72	20+	3	0	--	--	3.47	-1.80	1.00	21	5	.0	0	----	---	---	---	--	--	--	--	--	--
San Juan, P. R.	15	1010.1	1012.2	88	73	80.2	---	92	14	70	8+	5	0	73	82	3.88	----	1.07	19	9	.0	0	7.2	ENE	26	NE	28	2	16	13	6.	[illegible]
ALASKA																																
Anchorage	92	992.9	997.9	38	25	31.6	-4.4	51	1	8	31	0	26	25	73	1.82	-.05	.65	12	0	21.3	13	6.0	N	*23	NNW	30	4	3	24	8.	[illegible]
Annette	110	1002.7	1006.7	49	39	43.8	-3.1	56	1+	30	22	0	1	40	85	31.98	17.60	5.62	27	1	T	T	16.5	SE	*55	SSE	[illegible]	1	5	25	8.	--
Barrow	22	1007.1	1007.6	14	2	7.9	-9.2	35	1	-18	30	0	31	3	78	.43	-.09	.08	9	0	4.6	4	11.6	NE	28	E	1+	2	4	25	8.	[illegible]
Bethel	10	998.3	999.8	33	21	26.9	-4.9	45	1+	3	30	0	27	23	85	1.07	-.68	.36	11	0	6.8	5	10.7	NNW	*40	SSE	2	5	5	21	7.	--
Cold Bay	90	997.0	1001.2	41	31	35.8	---	50	2	25	20	0	22	32	83	2.64	----	.47	21	0	2.1	1	16.5	NNW	*44	W	3	0	3	28	8.	--
Cordova	40	- ----	------	44	29	36.7	-4.1	52	2+	15	31	0	19	--	--	6.45	-9.11	1.59	18	0	4.2	2	----	---	---	---	--	5	5	21	7.	--
Fairbanks	436	983.7	1001.1	31	17	23.8	-3.7	51	5	-7	31	0	30	20	82	.94	.02	.29	11	0	14.4	8	4.8	N	*15	NNW	6+	1	0	30	9.	--
Juneau	15	1003.1	1003.9	44	34	38.7	-3.2	52	1	24	26	0	14	34	84	7.47	-1.00	1.30	25	0	.3	T	9.4	ESE	47	SE	5	1	3	27	9.	[illegible]
Kotzebue	10	1002.0	1002.7	25	15	20.3	-5.2	43	3	-4	26	0	30	17	86	.44	-.14	.08	12	0	10.1	6	14.1	ENE	*32	ENE	21+	3	4	24	8.	--
McGrath	334	987.8	1000.8	29	14	21.6	-6.0	44	3	-13	31	0	31	17	81	1.10	-.57	.31	14	0	10.6	6	4.0	N	*21	ENE	21	4	5	22	8.	--
Nome	13	1000.3	1001.1	30	18	24.1	-5.9	42	2	-3	27	0	30	19	80	1.01	-.69	.44	12	0	6.6	6	10.4	N	47	E	2	5	8	18	7.	[illegible]
Northway	1713	------	-- ---	28	8	17.9	-6.4	51	1	-14	28+	0	31	--	--	.28	-.21	.14	5	0	8.9	7	----	---	---	---	--	1	7	23	8.	--
St. Paul Island	22	1002.4	1003.5	38	29	33.5	-5.6	48	1	24	11+	0	24	29	83	1.51	-1.61	.45	17	0	2.5	1	----	---	---	---	--	0	6	25	8.	--
Yakutat	28	999.0	1000.2	45	32	38.0	-3.7	52	1	20	31	0	18	35	88	22.52	2.59	3.51	23	0	8.5	2	10.9	ESE	*75	ESE	23	2	2	27	8.	--

Data from airport unless otherwise specified. CO indicates data from city office.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.

+ And also on a later date or dates

% Peak gust.

# Maximum 70°F. or above for Alaskan stations.

a Maximum hourly average.

HEATING DEGREE DAYS

(Base 65°F)

Table 3

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	185	185	136
Mobile	74	74	28
Montgomery	132	132	69
ARIZONA			
Flagstaff	480	826	956
Phoenix (CO)	0	0	13
Phoenix	1	1	22
Prescott	129	169	295
Tucson	0	0	24
Winslow	139	151	294
Yuma	0	0	0
ARKANSAS			
Ft. Smith	145	145	140
Little Rock	124	124	120
Texarkana	98	98	69
CALIFORNIA			
Bakersfield	30	30	41
Bishop	198	264	308
Blue Canyon	271	545	551
Burbank	47	51	70
Eureka (CO)	386	1327	1114
Fresno	53	54	86
Los Angeles (CO)	58	64	58
Los Angeles	92	107	196
Mt. Shasta (CO)	362	668	682
Oakland	169	540	394
Red Bluff	47	50	59
Sacramento (CO)	49	58	92
Sacramento	68	83	120
Sandberg (CO)	141	229	237
San Diego	54	55	94
San Francisco (CO)	176	859	604
San Francisco	175	638	555
San Jose	98	182	141
Santa Maria	179	653	460
COLORADO			
Alamosa	640	990	1142
Colorado Springs	369	504	575
Denver	336	464	561
Grand Junction	279	312	369
Pueblo	296	376	457
CONNECTICUT			
Bridgeport	229	290	400
Hartford	354	491	499
New Haven	285	383	474
DELAWARE			
Wilmington	226	271	329
DIST. OF COLUMBIA			
Washington (CO)	169	182	263
Washington	182	197	274
FLORIDA			
Apalachicola (CO)	28	28	17
Daytona Beach	21	21	0
Fort Myers	0	0	0
Jacksonville (CO)	22	22	11
Jacksonville	26	26	16
Key West (CO)	0	0	0
Miami (CO)	0	0	0
Miami	0	0	0
Miami Beach	0	0	0
Orlando	11	11	0
Pensacola (CO)	56	56	18
Tallahassee	78	78	31
Tampa	6	6	0
West Palm Beach	0	0	0
GEORGIA			
Athens	167	167	105
Atlanta	138	138	118
Augusta	138	138	59
Columbus	152	152	78
Macon	114	115	63
Rome	239	239	148
Savannah	87	87	38
IDAHO			
Boise	363	599	524
Lewiston	400	626	539
Pocatello	472	732	670
ILLINOIS			
Cairo (CO)	186	186	189
Chicago (CO)	264	298	
Chicago	300	343	440
Chicago University	287	334	
Moline	356	427	467
Peoria	331	372	436
Springfield	310	345	404
INDIANA			
Evansville	258	266	274
Ft. Wayne	334	400	501
Indianapolis	322	351	385
South Bend	338	432	500
IOWA			
Burlington	339	395	419
Des Moines	347	418	471
Dubuque	425	533	629
Keokuk (CO)	278	309	
IOWA (Cont'd.)			
Sioux City	340	437	558
KANSAS			
Concordia (CO)	240	296	332
Dodge City	190	253	302
Goodland	324	454	508
Topeka (CO)	211	239	284
Topeka	241	267	338
Wichita	198	215	251
KENTUCKY			
Lexington	264	268	315
Louisville	230	234	283
Pikeville (CO)	181	181	
LOUISIANA			
Baton Rouge	67	67	27
Lake Charles	30	30	22
New Orleans (CO)	17	17	5
New Orleans	50	50	7
Shreveport	79	79	53
MAINE			
Caribou	649	1163	1282
Greenville (CO)	628	1040	
Portland	501	794	785
MARYLAND			
Baltimore (CO)	167	191	236
Baltimore	224	258	328
Frederick	304	378	323
MASSACHUSETTS			
Blue Hill Obs.	399	573	
Boston	307	397	399
Nantucket	299	449	539
Pittsfield	473	753	844
MICHIGAN			
Alpena (CO)	431	681	880
Detroit	304	386	485
Detroit (Willow Run)	326	420	499
East Lansing (CO)	327	441	
Escanaba (CO)	461	713	959
Grand Rapids (CO)	292	404	519
Grand Rapids	344	490	649
Marquette (CO)	476	787	935
Muskegon	344	499	688
S. Ste. Marie	517	897	1172
MINNESOTA			
Duluth (CO)	610	940	1048
Duluth	609	975	1096
Internat. Falls	652	1102	1260
Minneapolis	423	561	641
Rochester	477	662	743
St. Cloud	523	766	880
MISSISSIPPI			
Jackson	135	135	69
Meridian	150	150	90
Vicksburg (CO)	81	81	51
MISSOURI			
Columbia	239	270	330
Kansas City	182	200	284
St. Joseph	270	304	319
St. Louis (CO)	215	218	240
St. Louis	230	239	278
Springfield	249	253	318
MONTANA			
Billings	368	630	719
Glasgow (CO)	469	777	862
Great Falls	444	840	871
Havre (CO)	498	887	892
Helena	532	962	1039
Kalispell	644	1205	1095
Miles City	407	625	729
Missoula	587	1047	994
NEBRASKA			
Grand Island	335	434	459
Lincoln (CO)	269	332	396
Norfolk	381	494	561
North Platte	437	589	563
Omaha	305	370	424
Scottsbluff	430	592	593
Valentine (CO)	430	592	627
NEVADA			
Elko	545	861	809
Ely	542	873	855
Las Vegas	17	17	61
Reno	437	696	696
Tonopah	305	431	523
Winnemucca	476	773	705
NEW HAMPSHIRE			
Concord	502	735	787
Mt. Washington Obs.	1042	2581	
NEW JERSEY			
Atlantic City (CO)	157	182	259
Newark	207	252	348
Trenton (CO)	207	259	340
NEW MEXICO			
Albuquerque	139	140	228
Clayton	253	316	386
Roswell	134	134	164
NEW YORK			
Albany	387	573	606
Binghamton	421	632	789
Buffalo	338	478	601
New York (CO)	182	212	302
New York	146	167	278
Rochester	357	535	616
Schenectady	350	487	
Syracuse	341	488	542
NORTH CAROLINA			
Asheville (CO)	272	283	312
Asheville	328	348	
Charlotte	155	156	154
Greensboro	230	242	231
Hatteras (CO)	49	49	63
Raleigh	191	196	165
Wilmington	104	104	73
Winston-Salem	179	192	210
NORTH DAKOTA			
Bismarck	501	769	891
Devils Lake (CO)	591	950	1038
Fargo	534	778	867
Grand Forks	591	911	
Pembina	589	896	
Williston (CO)	518	834	937
OHIO			
Akron	387	472	478
Cincinnati (CO)	205	212	264
Cincinnati	282	299	378
Cleveland	320	373	425
Columbus	302	331	414
Dayton	314	343	403
Sandusky (CO)	290	326	393
Toledo	347	442	501
Youngstown	392	509	457
OKLAHOMA			
Oklahoma City	151	156	168
Tulsa	129	129	170
OREGON			
Astoria	388	1052	733
Burns (CO)	475	850	818
Eugene	377	751	592
Meacham	578	1241	1089
Medford	303	498	403
Pendleton	372	572	457
Portland (CO)	282	481	392
Portland	346	632	482
Roseburg	341	638	
Salem	358	681	483
Sexton Summit (CO)	442	1035	782
PENNSYLVANIA			
Allentown	299	400	464
Harrisburg	257	324	377
Philadelphia (CO)	156	172	252
Philadelphia	200	232	316
Pittsburgh (CO)	275	305	354
Pittsburgh	361	422	491
Reading (CO)	213	269	347
Scranton (CO)	340	473	522
Williamsport	340	445	494
RHODE ISLAND			
Block Island	261	337	445
Providence	326	453	514
SOUTH CAROLINA			
Charleston (CO)	42	42	34
Charleston	104	104	52
Columbia	131	131	82
Florence	106	106	94
Greenville	162	164	141
Spartanburg	157	158	143
SOUTH DAKOTA			
Huron	448	620	647
Pierre	409	564	
Rapid City	415	599	749
Sioux Falls	418	585	664
TENNESSEE			
Bristol	275	275	297
Chattanooga	230	230	193
Knoxville	226	226	212
Memphis	158	158	143
Nashville	214	214	176
TEXAS			
Abilene	76	76	103
Amarillo	180	212	277
Austin	24	24	30
Brownsville	0	0	0
Corpus Christi	1	1	0
Dallas	54	54	53
Del Rio	21	21	26
El Paso	34	34	70
Ft. Worth	55	55	58
Galveston (CO)	4	4	0
Galveston	9	9	0
TEXAS (Cont'd.)			
Houston (CO)	12	12	0
Houston	21	21	7
Laredo	0	0	0
Lubbock	160	164	196
Midland	74	74	
Port Arthur	37	37	20
San Angelo	63	63	72
San Antonio	28	28	25
Victoria	13	13	[illegible]
Waco	55	55	44
Wichita Falls	86	86	120
UTAH			
Milford	404	544	576
Salt Lake City	374	496	469
VERMONT			
Burlington	435	701	759
VIRGINIA			
Lynchburg	243	264	285
Norfolk	122	122	161
Richmond	186	195	243
Roanoke	228	249	283
WASHINGTON			
Olympia	453	1014	815
Seattle (CO)	366	703	557
Seattle-Tacoma	446	966	749
Spokane	549	893	758
Stampede Pass (CO)	773	2005	1626
Tatoosh Island (CO)	439	1407	1304
Walla Walla (CO)	318	469	401
Yakima	483	762	603
WEST VIRGINIA			
Charleston	261	267	310
Elkins	414	486	574
Huntington (CO)	231	232	245
Parkersburg (CO)	274	286	328
WISCONSIN			
Green Bay	462	685	788
La Crosse	410	534	630
Madison (CO)	404	516	596
Madison	412	549	653
Milwaukee	373	480	614
WYOMING			
Casper	442	633	845
Cheyenne	470	704	890
Lander	467	702	906
Sheridan	432	700	885
ALASKA			
Anchorage	1029	2132	1939
Annette	652	1630	1397
Barrow	1770	4723	4126
Bethel	1175	2535	2327
Cold Bay	896	2400	
Cordova	869	2201	1983
Fairbanks	1268	2408	2220
Juneau	809	3163	1850
Kotzebue	1377	2886	2775
McGrath	1339	2622	2352
Nome	1262	2874	2745
Northway	1453	2770	2473
St. Paul	971	2800	2513
Yakutat	829	2106	1979

Data from airport unless otherwise specified.
CO indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4 October 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Vance, Person, Durham, Cabarrus, and Cleveland Counties, N.C.	1	Morning			1		$30,000	$20,000	Rain	Cold front crossing State caused widespread rain, with some very heavy amounts in local areas of Piedmont. Flash flooding of small streams resulted, and 1 man drowned attempting to drive car through flooded highway in Person County. Damage mostly due to washouts. No flooding downstream on main rivers.
Southeastern Sedgwick, northeastern Sumner, and northwestern Cowley Counties, Kans.	2	1-1:30 a.m.	30	*2-4					Wind and rain	High wind overturned several house trailers, damaged roofs, and toppled trees locally over area. Storm moved southeastward.
	3									Minor storm reported at Brooks, Iowa.
Jacksonville, Fla.	3-4						50,000		Rain	Streets, roads, and drainage systems heavily damaged by water from heavy rains.
Crosbyton, Crosby County, Tex.	4	4 p.m.	10	*1			15,000	250,000	Wind, hail, rain, and electrical	2 farm homes damaged, wind estimated as high as 90 m.p.h. Storm moved northeastward.
Groveland, Fla.	4				1				Electrical	Man standing on beach killed by lightning.
	4									Minor storm also reported in Adams County, Ill.
Humansville, Polk County, Mo.	5	1:30-1:45 a.m.	2	75	0	0	2,100	0	Tornado (suspected) and rain	Tore down big trees and broke powerlines; limb made hole in roof. Porch moved 7 inches. Storm moved northeastward.
Webb (3 miles north of), Clay County, Iowa	5	10 a.m.			1				Electrical	Lightning struck and killed man who was plowing.
Mercer, Adams, Pike, and Henry Counties, Ill.	5						55,000	7,000	Rain	Flood damage in Pike County in Hull-Kinderhook area $50,000 to bridge and other property and $5,000 to crops; in Adams County in Quincy area property damage $5,000; in Mercer County in New Boston-Aledo area crop loss $2,000. Hundreds of acres under water in Hull-Kinderhook area, Pike County. Autos stranded and farm homes isolated with some flooded. Edwards River bottomland flooded in Mercer County.
	5									Minor storms also reported at Seaton and Annawan, Ill,; at Burlington, Clinton, Graettinger, Iowa; Kansas City, Mo.; and at Seattle, Wash.
Marshalltown, Marshall County, Iowa	6	7 a.m.				2	1,200		Fog	Fog caused several automobile mishaps.
Princeton, Mercer County, Mo.	6	8-8:30 a.m.	1/4	100		3	Slight		Electrical and rain	3 persons suffered shock as lightning entered 9 homes on ridge line. Household damage included cracked wall.
Illinois, central and southern portions	6	A.m.-p.m.			0	0	°60,000		Wind, rain, hail, electrical, and tornadoes (suspected)	At Dallas City, Hancock County, at 7 a.m., electrical storm damaged phone and power services, electrical appliances and transformers with damages estimated at $3,000. In Adams, Brown, and Pike Counties, near noon, scattered hail; near Pittsfield irregular shaped stones up to 9 inches around; much damage to farm homes and buildings resulted and 2 hogs killed; hail near 2 p.m., at Milton; damage estimated to crops $500, to property $2,500. In Greene County, severe local winds and suspected tornadoes; east of Roodhouse during afternoon farm buildings, including barn, sheds, cribs, but with house untouched, damaged; machinery damaged and hogs killed and injured; damage estimates $2,000. Also in Greene County basement-type barn near Wrights moved 6 feet from foundation and foundation destroyed; trees uprooted in area; damage estimates $2,500. In Macoupi County, severe local winds and hail; wind damage in Palmyra-Scottville area, including much damage to Berean Church; hail accompanied storm at Carlinville, where storm termed "worst in years if not the worst in history." No damage estimate. At Springfield, Sangamon County, lightning struck home at 3:15 p.m., with damage $7,500. At Morrisonville, Christian County, lightning struck barn; damages not reported. Near Lincoln, Logan County, at 1 p.m., wind, hail, and suspected tornado struck 5 farms and rural-school garage 2 miles west of Lincoln; hog house was rotated and buildings unroofed; heavy damage to corn in field damage estimates to crops $3,000, other $5,000. At Oakland, Coles County, during evening, electric service outage due to wind blowing trees ont wires; falling trees damaged houses and a house-trailer; damage estimates $1,500. In Edgar Count during evening basement floodings from heavy rain also phone service outages at Paris and at Chrisman from water-shorted cables; damage estimates $5

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
llinois (Cont'd)										At Marshall, Clark County, during evening some power outages. In Richland County during evening house shifted on foundation and partially collapsed; lightning damaged 1 house; broken trees caused power and phone outages at Olney and in nearby Claremont; damage estimates $4,000. At Jacksonville, Morgan County, at 3:45 p.m., severe wind and heavy rain with considerable damage to some houses from wind and from flooding of basements; emergency crews worked late into night restoring power and phone lines and clearing many streets blocked by fallen trees; damage throughout city, but worst concentrated in northern edge; estimates $20,000. At Poncahontas, Bond County, at 5:30 p.m., twisting winds felled many trees and limbs, causing power and phone outages, with damage $2,000.
t. James, Phelps County, Mo.	6	3-3:30 p.m.		1,500		1			Wind, rain, and electrical	Plate-glass window smashed. High school boy received cut on hand while trying to close car window. Storm moved northeastward.
arrisonville (12 miles east of), Cass County, Mo.	6	4 p.m.	Short	Narrow	0	0	$12,000	$0	Tornado and rain	Large barn, granary, large henhouse, and chute to concrete silo destroyed.
ast St. Louis and Troy, St. Clair, and Madison Counties, Ill.	6	4:45-5:15 p.m.	15	50	0	2	100,000	1,000	Tornado, wind, and rain	Tornado moved northeastward and east-northeastward. In East St. Louis KSTL's tower broken at 4:45 p.m.; garage roof 150 x 30 feet lifted, smashing other garages when it fell. 50-yard wide tornado path 2 miles long identified near Troy. Path near Troy cut swath through cornfields and turned 6-ton gasoline truck around on highway. Employee of deroofed commercial garage in East St. Louis heard tornado shortly before it struck, describing it as "like a train roaring down the tracks." Storm left estimated 4,000 homes without power in East St. Louis and Cahokia areas. Some autos stalled by flood waters in underpasses.
hicago and suburbs, Cook County, Ill.	6	5 p.m.					100,000		Rain, wind, and electrical	Some southside areas had street and basement flooding in early a.m., from previous rains, but worst and general flooding resulted about 5 p.m., when rains flooded 23 underpasses, delaying traffic 2 hours, and flooded 5,000 basements. In some northern and western suburbs serious flooding, with 75 percent of basements flooded in Park Ridge.
elleville, St. Clair County, Ill.	6	5:05 p.m.			0	0	15,000	1,000	Tornado, wind, rain, and electrical	Tornado moving east-northeastward demolished farm buildings 1 mile west of Scott Air Force Base. Row of trees twisted into knots at Belleville. Much damage from fallen trees and limbs to property, and direct wind damage to property. Manhole cover lifted by storm. Power outages resulted from high tension and feeder line breaks.
ashville, Addieville, and Okawville, Washington County, Ill.	6	5:15 p.m.		10	0	0	25,000	100	Tornado, wind, rain, and electrical	Damage at Nashville described as typical of tornadoes, dipping here and there, hitting only roofs and tree tops in some areas. House moved on its foundation and garage was bulged outward. Power outages from fallen trees and limbs at Nashville, Addieville, and Okawville, where damage may have been straight wind. Damage includes $2,000 due to lightning at Okawville.
enderson County Tex.	6	5:37 p.m.			0	0	0	0	Tornadoes	Pilot reported 3 funnel clouds between Athens and Frankston.
igel (3 miles north of), Shelby County, Ill.	6	7 p.m.	1		0	0	4,000		Tornado, rain, and electrical	Tornado moving eastward demolished farm buildings on 3 farms.
luffton, Wells County, Ind.	6	7:30 p.m.	1/2		0	0	5,000	0	Tornado	Roofs lifted from 2 barns and carried 500 feet. Orchards and other trees damaged. Occupant in farm house heard whistle and roar of storm and barely had time to make it to basement stairway before trees crashed into house. Parts of 1 outbuilding carried 40 rods away into field.
ackson County, W. Va.	6	Evening			1				Electrical	While riding saddle horse and driving span of mules, farmer killed by lightning stroke; horse he was riding and one of the mules also killed.
	6									Minor storms also reported in Shelby County, Ky.; and west of Senath and at Trenton, Mo.
llinois, north-central and northeastern portions	7	Midday-early p.m.				3			Wind and hail	Scattered storms in unstable cold air behind cold front caused hail and damaging winds at various places. 3 injuries from wind at Peoria, and damaging wind reported at Gibson and Minonk. Hail reported at Pekin, Minonk, Chenoa, Joliet, and Park Forest.
	7									Minor storm also reported in Jackson County, Ky.
llamette Valley and coastal areas, Oreg.	7-8		200-300	*25-80		1	Few hundred	1,500,000	Rain and wind	Heavy rains that fell along coast and throughout Willamette Valley produced 36-hour totals of 3 to 4 inches over much of area. While these are not at all record-breaking amounts, the fact that

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Oregon (Cont'd)										they followed an extremely retarded growing season greatly increased resulting damage. Har vest of prunes and onions was later than it ha been in many years. Less than one-half of ver good prune crop and only about 15 percent of onions had been gathered when rains struck. Onions were plowed and laying on top of ground drying. Both of areas hardest hit, Lake Labish Marion County, where damages estimated at $850,(and Wapato Lake, Washington County, with estim losses of $500,000, lie in low ground that is of flood plain of local streams during rainy p tion of year. Heavy rains caused streams to o flow onto this onion land carrying thousands o tons of them away and very seriously damaging left, either by spoiling them outright or mate ally reducing quality. Rains combined with fa strong winds to shatter and/or lodge much of r clover seed and some 5,000 acres of grain corn Clackamas County, producing another estimated $100,000 damage. Very good late prune crop wh harvest was just reaching midpoint was either blown or knocked from trees and so badly split that little of unharvested fruit could be save Number of power interruptions due to high wind In Portland several trees, whose roots had bee loosened by rains, were blown down, one of whi struck passing car causing several hundred dol damage to it and slight injury to driver. Sto moved eastward.
Washington, western portion	8	During day	150	*50			$10,000		Wind and rain	Wind from southwest ripped roofing off large st in Bellingham. Falling trees damaged powerlin in several localities of western Washington.
	10									Minor storm reported at Seattle, Wash.
Kingston (10 miles southwest of), Caldwell County, Mo.	11	4-6 p.m.			1		2,000		Electrical and rain	Man struck by lightning and killed. Building burned. Storm moved northeastward.
	11									Minor storm also reported near Hamilton, Mo.
Grand Haven, Mich.	12	Morning					10,000		Wind	High winds blew down 2 walls of factory.
Jonesboro, Craighead County, Ark.	12	2:35-3:30 p.m.	4				15,000	$2,000	Wind, rain, electrical, and hail	Extensive wind damage to buildings, signs, and trees; gusts estimated at 100 m.p.h. Heavy ra (1.60 inches in 30 minutes) with much flooding streets. Lightning damage to power plant esti at $2,000 (included in total). Storm moved so eastward.
Newport (6 miles northeast of), Jackson County, Ark.	12	2.45 p.m.					75,000		Electrical and rain	Lightning struck factory building, setting it o fire.
Malden (near), Dunklin County, Mo.	12	2:45 p.m.			1				Electrical and rain	Boy struck by lightning and killed while riding tractor. Storm moved southeastward.
	12									Minor storms also reported in central and north Illinois; and at Yale, Iowa.
Pompano Beach, Fla.	13	Afternoon	Short	Narrow	0	0		0	Tornado, wind, and rain	Tornado wrecked 150-foot storage shed at lumberyard.
Mt. Vernon and Alexandria area, Va.	14	Day							Rain	Heavy to excessive rains caused much nuisance da age. Traffic jammed for a time on Mt. Vernon Memorial Highway; 1 county road flooded by Dog Creek; firemen evacuated several persons from their homes in Mt. Vernon and New Alexandria a while about 2 blocks of street in Alexandria c in where new interceptor sewer had just been i stalled and road sank 8 to 10 feet.
	14									Minor storm also reported near Trenton, N.J.
Pennsylvania, eastern portion	14-15								Rain and wind	Cold front moved into eastern Pennsylvania and b came stationary, with coastal wave moving northw accompanied by moderate to heavy rains and high winds on 14th and 15th. Rains continued in nor east through 16th. Total rainfall ranged from inches in sections of Tioga and Bradford Counti in north, and Pike County in northeast, to 4 to inches in central Susquehanna and Delaware Vall to 2 to 4 inches in southern Susquehanna and Delaware Valleys. Rapid runoff from heavy rain caused small streams throughout Susquehanna anc Delaware basins to flow over their banks, flooc adjacent lowlands. Small stream undermined anc destroyed portion of highway in northern Bradfc County. Roads near small streams flooded in ma sections of eastern Pennsylvania, and water pou into cellars in some areas. Danville, Pa., was

See footnotes at end of table.

able 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
ennsylvania (Cont'd)										one of hardest hit areas, with water several feet deep on main streets, entering first floor levels of dwellings. Winds strongest in eastern tier of counties, exceeding 50 m.p.h., in Reading and Scranton, and exceeding 60 m.p.h. in Philadelphia, Allentown, and Hazleton. Wind damage limited mostly to utility services which were disrupted by falling branches and trees.
ew England	14-16				34	Many	$35,000,000		Rain and wind	Heaviest rain and major damage occurred in Fairfield and Litchfield Counties, Conn., western sections of Connecticut Valley in Massachusetts, and Windham County, Vt. One of heaviest rainstorms of record in these areas, and was exceeded only by catastrophic rains 10 weeks earlier (Aug. 17-19). In Fairfield County, relatively spaced in August, rainfall totals of this storm have never been exceeded. Of 34 reported storm-caused deaths, 10 due to drownings and others in highway accidents.
ew York, eastern and south-central portions	14-17				10				Wind and rain	Progress of extra-tropical cyclone from Carolinas to New York brought winds of 56 m.p.h., to LaGuardia Field on 14th, 43 m.p.h., at New York City and 57 m.p.h., at Binghamton Airport. However, with exception of usual damage to trees and utility lines, wind loss was of minor importance. However, accompanying heavy rainfall which continued through 17th resulted in rapid rise of small streams in southeastern New York and in Susquehanna River drainage basin. Unprecedented flooding occurred on Schoharie Creek while flood loss in sections of Catskill area and southern tier of counties was of consequential proportions. Total monetary loss from flooding, as yet unestimated, will undoubtedly run to more than a million dollars.
ercer, Burlington, and Monmouth Counties, N. J.	16	5:30-8:05 p.m.	40	15	0	0	5,000	$0	Tornadoes (Suspected), wind, rain, hail, and electrical	Reports of many severe thunderstorms along narrow band extending eastward from Bordentown, Burlington County, through southern Mercer County and central Monmouth County to coast at Belmar-Asbury Park area. Western half of this band produced many reports of "bright flashes of lightning followed by very loud thunder and moderate to heavy showers." At eastern terminus near coast (Asbury Park-Belmar) there was strong evidence that 2 or more tornadoes may have developed. 4 large trees uprooted at Asbury Park at 5:55 p.m., all on north sides of streets, but not together. Several trees in between unharmed. 3 porches torn from adjacent homes at Belmar at 8:05 p.m.
offee and Dale Counties, Ala.	16	6:15-6:40 p.m.	12	150	0	6	25,000	2,000	Tornadoes, wind, rain, hail, and electrical	Apparently 3 tornadoes spawned by thunderstorm which moved eastward through Coffee and Dale Counties. Most damage by definite tornado which lifted up and down to hit intermittently along slightly widening and weakening 12-mile path extending from about 5-1/2 miles southeast of Elba to 3 miles east of Enterprise. Direction of movement initially eastward, but curving slightly so that at end of path it was going toward east-southeast. This was the second of 3 tornadoes. In latter portion of path, damage confined mostly to right side. First one began over wooded country in Pea River Valley, with an undetermined length of path before hitting farmstead about 2 miles south of beginning of path of second storm. It also followed skipping path and lifted finally about 2 miles further east. Path around 150 yards wide. Most damage along right side, indicating rather wide tornado which was relatively not very strong. Third storm hit briefly only twice, apparently with only right hand side reaching ground to cause narrow strips of broken and fallen trees and building damage less than 100 yards wide. The 2 areas of damage were about 3 miles apart, with final lifting about a mile southeast of Ewells, in Dale County, east of where it first hit. Hail up to 1 inch in diameter during thunderstorm reported in both New Brockton and Ozark. Tornadoes formed on south side of thunderstorm path.
onmouth County (eastern portion), N. J.	16	P.m.	5	100	0	0	15,000	0	Tornado, waterspout, wind, rain, hail, and electrical	Direction of movement of this storm seems unusual, but data is quite accurate. One witness, long a resident of locality said, "This storm came out of the southeast, which almost never happens - - -." Tornado first noted at 3:10 p.m., and disappeared at 3:40 p.m. Many reports of hail in vicinity of path of storm. One newspaper article stated that motorists were forced to pull off road because of intensity of hail. Size of stones not mentioned, so it may be assumed that pellets not of unusual diameter.
	16									Minor storms also reported at Selma, Marion Junction, Thomasville, and Greenville, Ala.; at Panama City, Fla.; and at Sharon, Miss.

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4–Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Madison, Mayo, and Lake City areas, Fla.	16-17	Near midnight					$12,500	Minor	Wind, electrical, and rain	Rural powerlines heavily damaged by wind and lightning. Automobile crushed by falling trees Fires set by lightning destroyed home and tobacc barn.
	17									Minor storm reported at Lake Hiawassee, Fla.
Hialeah, Fla.	18	Morning	Short	Narrow	0	0	Minor	$0	Tornado (suspected)	Suspected tornado hit isolated area. Garbage ca and lawn furniture hurled in all directions; aluminum, lawn chair carried 150 feet over 5-foo fence.
Lower Michigan, southwestern portion	23	6 p.m.					150,000	5,000	Wind, hail, electrical, and rain	Thunderstorms with strong winds; heavy hail in some localities. Heaviest damage in Ottawa, Ke and Allegan Counties. High winds damaged many trees, utility lines, and buildings. Hail brok hundreds of windows and killed thousands of bir mainly pheasants. Lightning damaged several buildings. Hail of golf-ball size and up to 4 inches reported.
Lower Michigan, east-central portion	23	6-8 p.m.					50,000		Wind, rain, hail, and electrical	Damage reported in Gratiot, Saginaw, Bay, Tuscol and Huron Counties. Wind damage heaviest in rural areas of eastern Gratiot County and south of Harbor Beach in Huron County. Several farm buildings destroyed or damaged in those areas.
Lake Puckaway, Green Lake County, Wis.	23	P.m.				1			Electrical, wind, and rain	Lightning struck duck hunter's gun as he held it knocking hunter into lake and causing third deg burns to his right arm and soles of both feet. Storm moved eastward.
Ferryville, Crawford County, Wis.	23	P.m.			4				Wind and rain	High winds produced large waves, swamping duck hunters' boat; 4 men drowned. Storm moved east ward.
	23									Minor storm also reported at Platteville, Wis.
Parkersburg and Vienna, W. Va.	24	9 a.m.							Wind	Wind squalls, with gale-force winds, attending eastward passage of cold front blew down severa trees over utility lines resulting in several hours disruption of electrical services.
Alaska, southeastern portion	24	Midmorning-afternoon					15,000		Wind	Strong gradient winds from cyclonic circulation centered in Gulf of Alaska. Storm moving north eastward affected coastal area from Prince Willia Sound southeastward, with strongest winds, appa ently, in Sitka area. Greatest damage reported from Sitka where seine boat was beached and sun when it pulled anchor in high wind of 60 m.p.h. at times. Slight damage at Sitka also reported from powerlines broken by wind at cold storage company. In Cook Inlet area specific damage re ported to 3 planes, 2 at Anchorage Internationa Airport and 1 at Lake Hood. At Haines fishing boat sunk and second one damaged. No estimate damages at Haines available.
New Jersey	24	4-5 p.m.					100,000		Wind and rain	Straight winds general throughout most of State damaging trees, roofs, and utility lines.
Virginia	24	Afternoon				1	Minor	Minor	Wind	Man injured in Fairfax County when wind blew ove 25-foot long stack of cinder blocks; several houses on Highway 60 west of Covington had thei roofing torn off and tossed some 300 feet away. Storm moved southeastward.
New England	24	Afternoon and evening					150,000		Wind, rain, and hail	Windstorm swept across all of New England, excep eastern and northern Maine. Thousands of trees felled, many of them tearing down power and telephone lines. Hundreds of communities withou lights or telephone communication for periods varying up to 10 or 12 hours. Scattered occurrences of thunderstorms and hail reported. Stor attended rapidly moving cold front advancing fr west.
Naugatuck, New Haven County, Conn.	24	6:30-6:40 p.m.	1/2	200	0	0	2,500	0	Tornado (suspected), wind, rain, and hail	Storm had tornadic characteristics. Trees topple and 6 chicken houses containing about 2,000 chickens and several hundred turkeys picked up and smashed against barn. Hailstones up to 1/2 inch in diameter fell over area of about 1/2 square mile. Storm moved northward.
Lowell, Mass.	24	8-8:05 p.m.			0	0	2,300	0	Tornado, rain, and electrical	Storm apparently fully developed tornado of brie duration and of very local character. It struc single house, tearing down chimney, ripping up clapboarding, and tearing huge holes in roof. Tornado moved southward.
New York, southern and eastern portions	24				5				Wind, rain, and snow	Rapid passage of cold front across State resulte in some extreme turbulence of air. Velocity of 80 m.p.h., recorded at New York City while unofficial report of a 110 m.p.h., wind at Sidney

See footnotes at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4–Continued

October 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
New York (Cont'd)										in Delaware County reported. Man killed by tree falling on truck cab in Madison County near De-Ruyter, while another man was blown from conveyor belt at Hinsdale, Cattaraugus County. 3 other persons killed in auto accidents caused by wind, rain, and snow. At Fergusonville in Delaware County barn collapsed and 35 cows killed or so badly injured that they had to be shot. Throughout area of storm, utility lines downed, trees felled and broken, and buildings damaged. While loss in a single locality not great, aggregate loss which can not be estimated, would reach sizable total.
Pennsylvania	24					2			Wind, rain, hail, and snow	Strong, cold front moved rapidly eastward through State. Peak gusts reached 50 to 60 m.p.h., in most areas, and as high as 72 m.p.h., at Johnstown. Widespread damage caused by trees and tree limbs falling on automobiles, houses, and utility lines. Many areas without power for period following brief, gusty windstorm. Television antennas blown down and some roofs damaged. In Bedford County, barn unroofed and in Chambersburg, Franklin County, roof blown from dry-cleaning plant. In Titusville area, 4 inches of snow also caused tree limbs to break, severing utility lines and disrupting power for several hours. Airman seriously injured at Philadelphia International Airport when wind flipped over light plane in which he was seated, while plane was being pulled into a hangar. In nearby Chester, another man injured when section of roof blown from building onto his automobile.
	24									Minor storms also reported at Glastonbury, Conn.; from Paxton to Worcester, Mass.; in central Sullivan County, N. H.; and at Perkinsville, Vt.
Washington, western and northern portions	24-25								Rain	Total amounts of rain on west slope of Cascades ranged from 4 to 6 inches. Flash floods occurred in lower valleys. Several bridges washed out in vicinity of Mt. Rainier. In northern section of State, bridges damaged on secondary highways in Whatcom, Skagit, and Snohomish Counties. Dike on Skagit River near Conway broke, flooding 2,000 acres of farm land.
	25									Minor storm reported in Lewiston-Clarkston area, Idaho.
New Orleans, La.	27	Early a.m.			2	hundreds			Smog	Smog blanketed New Orleans area, sending hundreds of persons to hospitals and resulting in death of 2 elderly patients.
	27									Minor storm also reported near Rush, Colo.
Sibley, Lincoln Parish, La.	28	Early a.m.					$5,000	$5,000	Wind and rain	Severe thunderstorm along squall line; 1 home destroyed, 4 or 5 others damaged. Storm moved northeastward.
Mississippi	28	9 a.m.-1 p.m.	100	*30			100,000	200,000	Wind and rain	Squalls developed over widespread area along eastward moving squall line, unroofing buildings, demolishing TV antennas, and blowing open cotton out of burrs, destroying or reducing quality. Greatest damage in towns of Scooba, Holly Springs, Sledge, Strayhorn, Longtown, Batesville, Crockett, and Sardis.
Hampton, Calhoun County, Ark.	28	9:05 a.m.	1/2	50	0	0	2,000	0	Tornado and rain	Tornado moving northeastward caused considerable damage to cotton gin; minor damage to 20 other buildings.
Kelso, Desha County, Ark.	28	10 a.m.	1	100	0	1	20,000	0	Tornado, wind, rain, hail, and electrical	Tornado moving northeastward destroyed gin seedhouse, damaged houses, and uprooted trees.
Adams, Jefferson, and Claiborne Counties, Miss.	28	11 a.m.	30	*20			10,000	Slight	Wind, rain, and electrical	Thundersquall moving northeastward along squall line caused damage near Natchez and Port Gibson.
Clarksdale, Coahoma County, Miss.	28	11 a.m.	2	100	0	2	95,000	5,000	Tornado (suspected), wind, and rain	Several buildings demolished, many seriously damaged. Storm moved northeastward.
Collierville, Shelby County, Tenn.	28	Noon	1/8	100-150			100,000	Slight	Wind, rain, and electrical	Severe thunderstorm damaged several business houses in center of town. Storm moved northeastward.
Bolivar, Hardeman County, Tenn.	28	2 p.m.	3	300			20,000	Slight	Thunderstorm	About 20 homes damaged and a few barns and other farm buildings destroyed. Storm moved northeastward.
ilan and vicinity, Gibson County, Tenn.	28	2 p.m.	5	600		1	25,000	Slight	Wind, rain, and electrical	Severe thunderstorm accompanied by strong winds struck town of Milan and nearby rural sections damaging about 10 homes and several farm buildings. Man injured by falling branches. Storm moved northeastward.

See footnotes at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Jefferson County, Ala.	28	4:40 p.m.					$40,000		Wind, rain, electrical, and hail	Trees and powerlines downed over suburbs of Birmingham, and other small towns in County, along with many signs, TV antennas, and a few garages. Hail over scattered areas.
Miller County (southern portion), Ga.	28	Night			1	2	Minor	Minor	Tornado (suspected)	
Savoy area, Fannin County, Tex.	28								Electrical	Fire started by lightning destroyed large barn.
	28									Minor storms also reported at Athens, Ala.; and near Monticello, Ark.
Clearwater, St. Petersburg, and Longboat Key, Fla.	29	7 a.m.-noon			0	0		$0	Tornado, wind, and rain	Tornado moved eastward across Longboat Key at noon unroofing small building and wrecking a carporte. Heavy rain at Clearwater and St. Petersburg.
Warba (vicinity of), Itasca County, Minn.	29-30				1				Snow and wind	Man, blinded by near-blizzard snowstorm, fell into Mississippi River and drowned.
Pennsylvania	29-30					2			Wind, rain, and electrical	Scattered, severe thunderstorms occurred along slow-moving cold front. Lightning caused extensive damage to home in town of North East by shattering furniture and sections of interior of house on 29th. On 30th in eastern Pennsylvania, 3 cows killed when lightning struck barn in Wayne County, wind unroofed barn in southwestern Cumberland County, and in York County 2 youths stunned when lightning struck garage where Halloween party in progress; however, the 2 suffered no ill effects. In another section of York County, lightning set fire to barn, with damage estimated at $37,000. 500-foot concrete-block chicken-house partially destroyed, and house trailer overturned in Lancaster County by wind. Lightning bolt damaged 2 adjacent homes in Drexel Hill section of Philadelphia. Numerous automobile accidents attributed to locally heavy rains and wind in scattered sections of State. Storm moved eastward.
Kapaa and vicinity, Island of Kauai, Hawaii	29-30						7,500	2,500	Rain	Basements and lower floors of several homes flooded. Additional damage due to washouts. Damage in pineapple fields estimated at $5,000, to roads $1,000.
DELAYED REPORTS.										
	Sept.									
Grinnell (west of), Gove County, Kans.	20	Afternoon							Hail	Hail quite severe, damaged immature milo fields about 4 miles west of Grinnell.
Hutchinson (10 miles southeast of), Reno County, Kans.	21	8:30 p.m.							Electrical	Large hay barn and contents of 1,200 bales of hay destroyed.
Newton (west of), Harvey County, Kans.	22	Early a.m.					$250,000		Electrical	Large home containing many antiques, paintings, and collections from various parts of World destroyed by fire.
Oberlin (southeast of), Decatur County, Kans.	25	12:40 a.m.							Electrical	Lightning struck large barn. Barn and adjoining racing-dog kennels, a large quantity of dog food, and some baled hay all burned.
Burdett (3 1/2 miles north of), Pawnee County, Kans.	27	6 a.m.							Electrical	Lightning struck oil storage tank battery which exploded and burned.

* Miles instead of yards.

° Includes damage to crops.

TROPICAL STORMS OF THE NORTH ATLANTIC, OCTOBER 1955

Compiled by C. E. Rhodes

Two tropical storms occurred in the North Atlantic during October. One, Katie, formed in the central Caribbean Sea and reached hurricane intensity, while the other was far out in the Atlantic Ocean and no advisories were issued, nor was the storm named. These storms are discussed below, and their tracks are shown on the accompanying chart.

Tropical Storm of October 10-14:

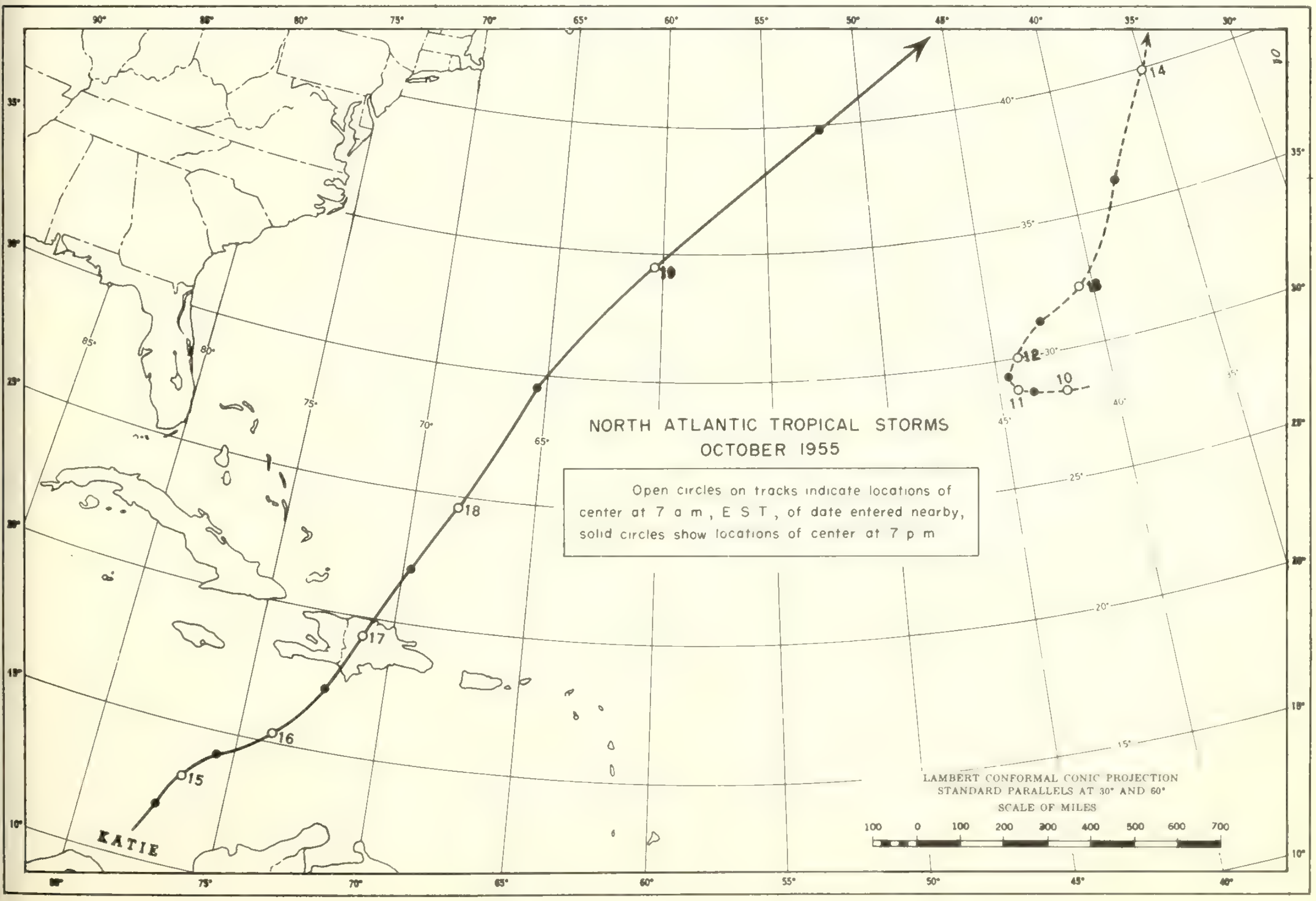
This small tropical storm was first discovered on the 10th at latitude 28.5° N., longitude 42.8° W., and moving west at 7 or 8 m.p.h. It apparently developed in an easterly wave which passed through the Cape Verde Islands on the 4th, with indications of a weak circulation. The storm recurved to the northeast on the 11th and accelerated rapidly on the 13th toward the northeast. It weakened during and following recurvature until the night of the 13th when cold air entered the system from the north as it merged with a developing extra-tropical storm and the combined storm became very severe on the 15th. A pressure of 28.91 inches was reported on the 15th.

Hurricane Katie: October 14-19

Katie formed on October 16 in the central Caribbean from a weak wave which developed a closed circulation a short distance north of Panama 2 days earlier and moved slowly northeastward. The first report on this storm, at 7 a.m. of the 16th, showed a wind speed of 57 m.p.h. and a pressure of 29.57 inches at latitude 14.9° N., longitude 74.1° W. A navy reconnaissance flight during the afternoon indicated rapid intensification into a small but dangerous hurricane, with winds of 115 m.p.h. near the center and pressure down to 29.06 inches.

The hurricane reached the coast of Hispaniola near the Haiti-Dominican Republic border about midnight of the 16th. It weakened rapidly as it crossed the mountains, and entered the Atlantic near Puerto Plata, Dominican Republic, around midday of the 17th. Although the center seems to have passed within 20 or 30 miles of Puerto Plaza, the highest wind reported from that station was 14 m.p.h. After passing into the Atlantic, however, the storm intensified briefly to 73 m.p.h. A small vortex continued northeastward, passing about 100 miles east of Bermuda. Ships encountered a vortex at latitude 37.3° N., longitude 56.4° W. at 2:40 p.m. on the 19th, with winds of about 40 knots.

In the southwest portion of the Dominican Republic torrential rains over the mountains caused losses to agriculture and livestock. Incomplete estimates of property damage in this area amounted to $250,000. Seven deaths resulted from floods caused by heavy rainfall on the southern slopes of the central Cordillero. Damages to the southeast portion of the Haitian Republic, from Jacmel to Ases a' Petri, were severe but no monetary estimates are available.



NORTH ATLANTIC TROPICAL STORMS
OCTOBER 1955

Open circles on tracks indicate locations of center at 7 a m, E S T, of date entered nearby, solid circles show locations of center at 7 p m

LAMBERT CONFORMAL CONIC PROJECTION
STANDARD PARALLELS AT 30° AND 60°
SCALE OF MILES

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

OCTOBER 1955

The "extra-tropical" cyclone which developed near the Carolinas on the 14th caused serious floods in southern New England and southeastern New York for the second time this year. Fortunately, the floods were not as extensive or damaging as those in August. Repair work, necessitated by previous flood destruction, suffered considerable damage. In New England, southwestern Connecticut was hardest hit this time with severe damage being inflicted in the Housatonic River Basin and along the coastal areas from Milford to Greenwich. Schoharie Creek in southeastern New York experienced record flooding and the Ramapo River in northeastern New Jersey reached its highest level in 52 years.

Floods elsewhere were relatively minor, with greatest damage occurring in the headwaters of the Pudding River (Lake Labish) in Oregon.

ST LAWRENCE DRAINAGE

Lake Ontario.--Minor flooding occurred on the 14th and 15th in the headwaters of the Genesee River Basin. Lower reaches of the Basin did not exceed flood stage. Damages were limited mostly to growing crops.

ATLANTIC SLOPE DRAINAGE

An "extra-tropical" cyclone which developed off the coast of the Carolinas on the 14th, moved northward and brought moderate to heavy precipitation to the same areas ravaged by hurricane "Diane" floods.

Floods and damages were not nearly as extensive as those caused by hurricane "Diane". Many small streams in the coastal areas from Virginia northward to southern Vermont and New Hampshire overflowed their banks for short periods of time. Larger rivers were generally within their banks.

In Connecticut, about one-half of the cities and towns hit by the August floods suffered additional damages from flooding by this storm. The damage was mostly to repair work which in many cases was still in progress. Damages were considered light in comparison with the August floods. Heaviest precipitation was over the Berkshires in western Connecticut and Massachusetts, with storm totals up to 12 inches - the Housatonic River Basin with Danbury and Norwalk and other communities in southwestern Connecticut being hardest hit. Swollen estuaries, together with high tides, caused severe damage in coastal areas from Milford to Greenwich. Thousands of families were evacuated from their homes. Ten deaths were reported by drowning in southern New England.

In southeastern New York, rainfall during the period 14th-17th was especially heavy from the lower Adirondacks and Mohawk Valley southward. Precipitation for the storm averaged 3 to 6 inches over the Mohawk and middle Hudson Basins. Unprecedented rainfall occurred over the central Catskills, with reported amounts up to 15 inches. Schoharie Creek, which experienced its worst flood of record, contributed the bulk of the flood waters to the Mohawk. Discharge at Burtonsville on the Schoharie was about twice that of the previous record. At Middleburg, N.Y., the crest of 22.2 feet was 5.4 feet above the previous highest stage record (16.8 feet, March 18, 1936). Moderate flooding on the Mohawk occurred from Tribes Hill, N.Y., to its mouth. Minor overflow occurred on the Hudson from Troy to Catskill, N.Y. Damages were substantial in the Schoharie Valley and scattered areas of the Catskills. One life was lost when an automobile left the road and tumbled into flood waters. Ellenville, hit hard in August, suffered additional damage but not as severe as in August.

Two to 5 inches of rain fell over the Catskill area again from the 29th to the 31st and resulted in moderate flooding of small streams. Major rivers experienced only minor rises. Damages were light. The Ramapo River (tributary of Passaic River) in northeastern New Jersey rose to its highest level in 52 years on the 16th. Hundreds of families were evacuated from their flooded homes.

The Lehigh River at Lehighton, Pa., and the Lackawaxen at Hawley, Pa., crested about 2 feet above flood stage on the 15th and 16th. No damages were reported.

Precipitation, averaging 5.6 inches over the Chemung River Basin for the period 14th-17th, caused moderate flooding in Tioga and Chemung Rivers. However, in the Corning-Elmira area, only light flooding occurred. One life was lost because of the flood, and damages were estimated at about 1/4 million dollars. In north-central Pennsylvania most of the small streams feeding the Susquehanna above Sunbury overflowed their banks. Heaviest flooding occurred along the tributaries on the north side of the West Branch between Lock Haven and Williamsport. No flooding occurred on the main stems of the West Branch and Juniata Rivers. The Lackawanna River crested generally within its banks, except for local overflows in the Dickson City-Olyphant area. Considerable flooding of businesses and homes occurred along streets adjacent to the river. The main stem of the Susquehanna from the New York state line to its confluence with the West Branch was about 3 feet above bankful. Damages were mostly confined to highways and bridges as the affected areas are sparsely populated.

Rains totaling about 5 inches during the early morning of the 14th caused overflow of small streams in the Washington, D.C., area, particularly in the Rock Creek and Anacostia Basins. Damage was negligible as the same areas had been flooded several times within the last few months.

The Waccamaw River at Conway, S.C., remained above flood stage through the 13th. This was the most prolonged flood of record at Conway with the river above flood stage for 37 consecutive days. Crest was 2 feet above flood stage, the highest since September 1945. Several hundred acres of farmland were under water for 4 to 5 weeks, destroying growing crops and pastures. Many families were forced to leave their homes.

MISSISSIPPI SYSTEM

Missouri Basin.--There was some local flooding on the 6th and 7th in the Petite Saline and Lamine rivers in central Missouri. Damages were light as this area was also flooded during the latter part of August.

Ohio Basin.--Moderate to heavy rain (4 inches) occurred over the headwaters of the Allegheny River Basin on the 14th and 15th, causing minor flooding at Olean, N.Y. No damage resulted.

Minor overflows occurred at Lafayette, Ind., on the Wabash River and at Anderson, Ind., on the White River on the 8th from the heavy rains of the 5th to 7th. The rains averaged 4 inches over the upper Wabash Basin, and 2.5 inches over the lower Wabash and White Basins. No damage was reported.

Arkansas Basin.--The Cimarron River rose 2 to 3 feet above flood stage in the vicinity of Perkins and Coyle, Okla., during the period 3d to 6th. Several centers of heavy rainfall occurred, with storm totals of 10.36 inches at Kingfisher and 9.50 inches at Piedmont, Okla. Damages were primarily to growing crops.

Heavy, local rains of 4 to 8 inches occurred in the Wichita, Kans., area during a 2-hour period beginning about 11:30 p.m. on the 1st. The heavy rains were limited to about a 100-square mile area centered over North Wichita. This heavy rain area was so localized that no flooding occurred on the main streams. The only flooding reported was on the Chisholm Creek which caused considerable damage to residential and commercial areas in North Wichita.

Red Basin.--Heavy rains (4.5 inches) occurred over the Wichita River Basin on the 2d, causing the river to rise to a crest of about 21 feet (3 feet above flood stage) at Wichita Falls, Tex., during the night of the 4th-5th. The runoff was heavy as the rains during the latter part of September saturated the soil. About 500 persons were evacuated. Flood damages were light in comparison to the damages suffered in the flood of 1950 when the crest was only 0.4 foot higher (21.4 feet).

Heavy rains (10 inches at Clinton, Okla.), in the headwaters of the Washita River on the 2d and 3d, caused a sharp rise in the river to 6 feet above bankful stage at Carnegie on the 5th. Most damage was to rural lands and highways. Minor overflows occurred in the Sulphur River at Naples, Tex., from the heavy rain in the headwaters (3.5 inches), the latter part of September.

The only flooding along the main stem of the Red occurred in the reach above Terrall, Okla., where minor overflows were reported. At Terrall, the crest was 23.95 feet, 3 feet above flood stage on the 7th.

WEST GULF OF MEXICO DRAINAGE

Minor flooding occurred along the Nueces River between Cotulla and Tilden Crossing, Tex., from the 1st to the 13th. Flooding was due to extensive (record) floods on the upper Nueces Basin during the latter part of September. Low runoff in the lower reaches prevented serious flooding in this area. Flooding was confined to low sections along the river and reports generally indicated that more benefits than damage resulted.

The Rio Grande, in the vicinity of Presidio, Tex., overflowed some lowlands on the 4th. Overflow was minor and caused no damage.

PACIFIC SLOPE DRAINAGE

Columbia River Basin.--In Oregon, minor flooding occurred on the 10th in the lower Santiam River and in the headwater (Lake Labish) area of the Pudding River and to a much lesser degree in Wapeto Lake region of the Tualatin River. Heavy rains on the 9th and 10th, with amounts of 2.5 to 3.0 inches in a period of 24 to 30 hours, caused higher than usual runoff as the rains during the latter part of September and early part of this month had saturated the soil to a depth of 10 to 18 inches. Heavy monetary crop losses occurred as the affected areas are highly developed truck and onion farming areas. The inundation of the truck farms was due to backwater caused by the sluggish flow of the Pudding River.

Puget Sound Drainage.--Heavy rains on the 24th and 25th over the western half of Washington resulted in minor flooding of streams draining the western slope of the Cascade range. The rains averaged 3 to 5 inches in a period of 30 hours over the upper Skagit and Sauk Rivers. Principal damages occurred near Conway, Wash., on the Skagit River and near Longmire, Wash., on the Nesqually River. At the former location, about 2,000 acres of farmland on Fir Island were inundated. At the latter, two bridges were washed away.

FLOOD STAGE DATA

Table 5

(All dates in October unless otherwise specified)

OCTOBER 1955

River and station	Flood stage	Above flood stages -dates		Crest	
		From—	To—	Stage	Date
ST. LAWRENCE DRAINAGE Lake Ontario	Ft.			Ft.	
Genesee: Scio, N. Y.	6	14	15	9.1	14
ATLANTIC SLOPE DRAINAGE					
Connecticut: Hartford, Conn.	16	16	20	22.4	17
Schoharie Creek: Middleburg, N.Y.	12	15	17	22.2	16
Mohawk: Schenectady (Ferry St.),N.Y.	10	16	17	13.6	17
Hudson: Troy, N. Y.	15	17	17	16.0	17
Lackawaxen. Hawley, Pa.	9	16	16	11.0	16
Lehigh: Lehighton, Pa.	9	15	16	10.75	15
Tioga: Lindley, N. Y.	17	14	15	20.0	14
Chemung: Corning, N. Y.	16	14	15	17.5	15
Elmira, N. Y.	12	14	15	17.15	15
Chemung, N. Y.	12	14	17	20.05	15
Susquehanna: Conklin, N. Y.	11	16	18	11.3	16
Vestal, N. Y.	18	16	16	18.5	16
Towanda, Pa.	16	15	17	18.6	16
Wilkes-Barre, Pa.	22	16	17	19.0	16
Danville, Pa.	20	16	17	22.2	17
Waccamaw: Conway, S. C.	7	Sept. 7	13	9.0 8.7	Sept. 22 2-5
MISSISSIPPI SYSTEM Missouri Basin					
Lamine: Clifton City, Mo.	19	5	7	25.7	7
Petite Saline Creek: Booneville (nr), Mo.	16	5	6	**21.7	6
MISSISSIPPI SYSTEM (Cont'd.) Ohio Basin	Ft.			Ft.	
Allegheny: Olean, N. Y.	10	15	15	10.3	15
White: Anderson, Ind.	10	8	8	10.1	8
Wabash: Lafayette, Ind.	11	8	8	11.0	8
Arkansas Basin					
Cimarron: Perkins, Okla.	11	3	6	13.35	5
Red Basin					
Sulphur: Naples, Tex.	22	--	--	23.0	6
WEST GULF OF MEXICO DRAINAGE					
Nueces: Tilden Crossing, Tex.	11	4	13	17.2	[illegible]
PACIFIC SLOPE DRAINAGE Columbia Basin					
Santiam: Jefferson, Oreg.	13	10	10	14.6	10
Puget Sound Drainage					
Skagit: Concrete 2SW, Wash.	26	25	26	35.1	25
Mt. Vernon, Wash.	21	25	26	23.7	26
Stillaquamish: Arlington, Wash.	16	25	26	18.0	25
Snoqualmie: Carnation 1NW, Wash.	51	9 25	9 26	51.6E 52.4E	9 25
Snohomish: Snohomish, Wash.	23	25 30	26 30	27.0E 23.7E	25-26 30

* Provisional
** Highest stage reported but not necessarily the crest
E Estimated

RADIOSONDE DATA

Average monthly values

Table 20

OCTOBER 1955

Standard pressure surface (mb.)	*ALBANY, N. Y. (1004 MB.)				ALBUQUERQUE, N. MEX. (840 MB.)				ANCHORAGE, ALASKA (992 MB.)				ANNETTE, ALASKA (1003 MB.)				ATHENS, GA. (988 MB.)				BARROW, ALASKA (1006 MB.)				BETHEL, ALASKA (998 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	12	86	7.6		31	1,619	16.4	31	31	42	2.0	69	31	37	7.3	85	31	246	15.3	71	31	8	-12.3	80	30	4	- 0.2	75
1,000--	12	118	8.0		31	99			31	34			31	60			31	143			31	49			30	11		
950----	12	540	7.4		31	553			31	386	.6	69	31	484	4.3	81	31	583	16.7	57	31	451	-11.1	86	30	403	- 3.4	74
900----	12	984	4.9		31	1,021			31	812	- 1.8	70	31	918	1.2	82	31	1,041	14.1	56	31	857	-10.7	80	30	822	- 6.4	73
850----	12	1,449	3.3		31	1,518			31	1,264	- 5.1	71	31	1,375	- 1.8	84	31	1,521	12.0	54	31	1,295	-11.7	73	30	1,267	- 8.4	68
800----	12	1,939	1.0		31	2,037	16.4	27	31	1,738	- 8.2	71	31	1,855	- 4.6	79	31	2,027	10.0	48	31	1,758	-13.6	65	30	1,735	-11.0	63
750----	12	2,458	- 1.2		31	2,583	12.1	29	31	2,239	-11.4	70	30	2,369	- 7.6	72	31	2,565	6.9	49	31	2,256	-15.9	61	30	2,232	-14.0	58
700----	12	3,004	- 3.7		31	3,155	7.7	31	31	2,762	-14.6	68	30	2,898	-10.8	69	31	3,124	3.6	42	31	2,763	-18.7	61	30	2,748	-17.3	55
650----	12	3,593	- 6.8		31	3,764	3.0	37	31	3,322	-18.1	65	30	3,470	-14.2	64	31	3,727	.7	37	31	3,322	-21.8	62	30	3,305	-20.8	52
600----	12	4,206	-10.7		31	4,403	- 1.9	40	31	3,912	-21.9	62	30	4,067	-18.1	58	31	4,362	- 2.7	30	31	3,897	-25.1	58	30	3,886	-24.3	50
550----	12	4,871	-15.2		31	5,089	- 6.1	35	31	4,549	-26.2	60	30	4,717	-22.2	53	31	5,051	- 6.6	28	31	4,533	-28.7	54	30	4,518	-28.4	47
500----	12	5,581	-20.5		31	5,828	-11.0	31	31	5,230	-30.8	58	30	5,406	-26.6	50	31	5,785	-11.6		31	5,200	-33.2	51	30	5,192	-32.6	40
450----	12	6,361	-26.1		31	6,637	-16.6		30	5,969	-36.1	59	30	6,165	-31.4	48	31	6,594	-17.3		31	5,940	-38.5		30	5,931	-37.5	
400----	12	7,195	-31.5		31	7,504	-23.1		30	6,774	-41.7		30	6,984	-36.8		31	7,456	-23.9		31	6,732	-44.2		30	6,729	-43.0	
350----	12	8,126	-37.9		31	8,466	-30.6		30	7,666	-47.7		30	7,895	-42.9		30	8,417	-31.2		31	7,615	-50.5		30	7,618	-48.3	
300----	12	9,172	-44.7		31	9,542	-38.8		29	8,670	-52.9		30	8,921	-48.7		29	9,495	-38.8		30	8,604	-56.6		30	8,623	-51.5	
250----	12	10,371	-51.2		31	10,768	-47.7		26	9,845	-53.4		30	10,108	-51.8		28	10,733	-47.5		29	9,753	-57.0		30	9,808	-49.9	
200----	11	11,790	-54.7		30	12,213	-55.6		25	11,279	-50.0		30	11,552	-52.5		27	12,191	-54.9		26	11,179	-52.2		28	11,260	-47.9	
175----	10	12,636	-55.2		30	13,057	-58.9		25	12,152	-49.4		30	12,414	-52.2		27	13,037	-58.4		25	12,046	-51.7		27	12,142	-47.8	
150----	9	13,635	-56.9		30	14,015	-62.5		25	13,161	-49.2		29	13,417	-52.8		25	13,983	-61.1		24	13,046	-51.2		25	13,161	-47.9	
125----	8	14,776	-58.9		28	15,123	-66.8		22	14,356	-49.4		28	14,591	-53.4		24	15,107	-64.0		22	14,235	-51.4		23	14,362	-48.3	
100----	7	16,180	-60.0		26	16,454	-69.5		16	15,794	-49.3		27	16,023	-53.8		23	16,454	-66.8		21	15,681	-51.7		19	15,835	-48.7	
80-----	6	17,566	-61.1		20	17,763	-67.1		7	17,253	-48.4		26	17,455	-53.7		18	17,788	-64.7		19	17,131	-52.7		18	17,301	-49.3	
60-----	5	19,341	-60.0		19	19,521	-62.8		5	19,132	-49.9		25	19,299	-53.7		18	19,562	-60.0		18	18,984	-54.2		15	19,199	-49.2	
50-----					19	20,651	-59.8						20	20,473	-53.7		17	20,705	-58.6		14	20,140	-54.8		14	20,390	-49.7	
40-----					19	22,053	-57.0						15	21,898	-54.4		17	22,113	-56.2		10	21,523	-54.8		9	21,878	-50.2	
30-----					17	23,895	-54.1						7	23,732	-54.4		15	23,944	-53.7		7	23,378	-54.2					
20-----					5	26,522	-51.5										6	26,586	-50.2									

Standard pressure surface (mb.)	BISMARCK, N. DAK. (954 MB.)				BOISE, IDAHO (917 MB.)				BROWNSVILLE, TEX. (1016 MB.)				BUFFALO, N. Y. (992 MB.)				BURRWOOD, LA. (1016 MB.)				CARIBOU, ME. (993 MB.)				CHARLESTON, S. C. (1016 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	505	8.5	52	31	868	12.0	51	31	7	22.1	76	31	182	11.1	83	31	3	22.3	76	31	191	5.7	80	31	13	15.9	89
1,000--	31	106			31	135			31	143	23.7	69	31	112			31	145	22.9	68	31	131			31	148	18.6	75
950----	31	540			31	574			31	594	21.1	66	31	545	11.4	69	31	593	19.8	63	31	552	5.3	74	31	593	17.5	63
900----	31	987	10.9	44	31	1,028	14.0	40	31	1,057	18.1	63	31	993	8.8	68	31	1,054	16.9	59	31	992	3.3	72	31	1,050	14.8	58
850----	31	1,461	7.9	46	31	1,510	12.6	36	31	1,544	15.9	53	31	1,464	6.3	66	31	1,539	14.3	54	31	1,454	1.6	67	31	1,532	12.5	49
800----	31	1,959	5.5	43	31	2,015	9.3	36	31	2,058	13.9	44	31	1,959	4.2	60	31	2,050	12.2	46	31	1,941	- .3	65	31	2,038	10.1	47
750----	31	2,490	2.4	42	31	2,555	5.7	36	31	2,604	11.6	41	31	2,488	1.6	59	31	2,595	9.6	42	31	2,463	- 2.1	51	31	2,580	7.5	42
700----	31	3,037	- .8	42	31	3,108	1.8	41	31	3,175	8.5	39	30	3,035	- 1.5	57	31	3,159	7.2	37	31	3,002	- 4.3	46	31	3,138	4.4	41
650----	31	3,631	- 4.5	45	31	3,706	- 2.3	44	31	3,788	5.0	35	30	3,625	- 4.7	52	31	3,771	4.0	33	31	3,593	- 7.1	43	31	3,745	1.0	37
600----	31	4,250	- 8.2	43	31	4,332	- 6.5	45	31	4,433	1.4		30	4,247	- 8.2	42	30	4,414	.2		31	4,203	-10.5	42	31	4,378	- 2.5	
550----	31	4,922	-12.6	45	31	5,011	-10.9	45	31	5,131	- 2.5		30	4,919	-12.0	35	30	5,110	- 3.8		31	4,874	-14.5	41	31	5,070	- 6.3	
500----	31	5,641	-17.4	44	31	5,733	-15.9	40	30	5,878	- 7.2		30	5,640	-16.9	36	30	5,851	- 8.9		31	5,583	-18.9		31	5,803	-11.0	
450----	31	6,431	-22.8	39	31	6,528	-21.3	38	30	6,700	-12.5		30	6,429	-22.3	36	28	6,670	-14.6		31	6,371	-23.8		31	6,614	-16.5	
400----	31	7,274	-29.1	36	31	7,378	-27.5	38	30	7,581	-18.7		30	7,278	-28.1	39	28	7,538	-21.1		30	7,202	-30.0		31	7,480	-22.9	
350----	31	8,215	-36.1		31	8,324	-34.7		30	8,561	-25.8		30	8,222	-35.2	42	26	8,507	-28.4		30	8,138	-37.3		31	8,444	-30.0	
300----	30	9,262	-43.7		30	9,375	-42.7		30	9,658	-33.9		30	9,277	-42.7		26	9,592	-36.8		28	9,185	-44.6		31	9,525	-37.9	
250----	30	10,465	-51.1		29	10,572	-51.1		30	10,910	-43.3		30	10,486	-49.4		25	10,833	-45.4		26	10,391	-50.4		31	10,758	-46.8	
200----	30	11,897	-55.4		28	11,998	-56.7		29	12,371	-54.2		27	11,928	-53.8		23	12,279	-55.0		23	11,823	-54.3		30	12,213	-55.2	
175----	29	12,745	-55.9		28	12,842	-57.8		29	13,215	-59.8		26	12,783	-55.7		23	13,123	-59.4		21	12,683	-55.7		30	13,058	-58.9	
150----	29	13,723	-57.2		28	13,808	-59.7		27	14,162	-65.3		22	13,725	-56.8		23	14,077	-64.4		21	13,659	-57.7		30	14,017	-62.6	
125----	28	14,880	-59.3		28	14,940	-62.2		24	15,259	-71.0		19	14,868	-59.4		22	15,185	-68.6		21	14,806	-59.0		30	15,131	-66.6	
100----	28	16,272	-60.3		28	16,314	-63.0		15	16,557	-74.7		14	16,262	-60.5		20	16,514	-71.9		17	16,220	-60.5		30	16,471	-68.9	
80-----	28	17,663	-60.3		26	17,693	-61.7		11	17,866	-73.0		7	17,632	-61.4		20	17,832	-69.7		16	17,615	-60.5		30	17,810	-67.1	
60-----	26	19,461	-59.2		24	19,480	-59.9		8	19,566	-63.3		6	19,417	-60.2		19	19,567	-63.2		15	19,416	-59.2		28	19,562	-61.8	
50-----	25	20,608	-58.8		23	20,619	-58.9		8	20,695	-59.9		6	20,555	-59.4		16	20,697	-60.2		14	20,554	-58.8		28	20,696	-59.8	
40-----	24	22,016	-58.2		22	22,026	-58.1		7	22,084	-56.6		5	21,928	-59.1		16	22,099	-57.0		10	21,947	-58.2		25	22,099	-57.3	
30-----	18	23,849	-56.4		15	23,850	-56.1		7	23,921	-53.5						15	23,928	-54.1		6	23,784	-57.0		25	23,933	-53.8	
20-----	10	26,437	-55.3						5	26,536	-50.3						10	26,533	-50.2		6	26,358	-56.2		22	26,547	-51.1	
15-----	7	28,280	-55.0																						11	28,448	-50.2	

Standard pressure surface (mb.)	COLD BAY, ALASKA (997 MB.)				COLUMBIA, MO. (987 MB.)				DODGE CITY, KANS. (925 MB.)				EL PASO, TEXAS (883 MB.)				ELY, NEV. (812 MB.)				FAIRBANKS, ALASKA (983 MB.)				FT. HUACHUCA, ARIZ. (858 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	27	3.5	79	31	238	12.8	66	29	792	14.0	50	31	1,195	19.1	38	31	1,908	10.2	36	31	135	- 1.6	78	30	1,428	20.8	29
1,000--	31	1			31	125			29	125			31	107			31	120			31	3			30	74		
950----	31	418	.5	77	31	564	14.9	51	29	569			31	560			31	568			31	403	- 2.2	66	30	534		
900----	31	844	- 2.6	79	31	1,015	12.1	50	29	1,027	15.6	41	31	1,031			31	1,031			31	832	- 4.5	67	30	1,012		
850----	31	1,295	- 5.7	78	31	1,492	9.8	49	29	1,510	13.7	39	31	1,528	20.5	33	31	1,516			31	1,280	- 6.5	68	30	1,510	21.0	28
800----	31	1,767	- 8.4	75	31	1,993	7.3	49	29	2,018	11.1	38	31	2,048	16.9	35	31	2,028	13.5	32	31	1,752	- 8.2	69	30	2,032	17.8	31
750----	31	2,272	-11.0	66	31	2,530	4.9	41	29	2,562	7.9	37	31	2,596	12.7	37	31	2,573	10.6	32	31	2,261	-11.1	70	30	2,584	13.1	37
700----	31	2,792	-13.9	57	31	3,082	2.3	36	29	3,118	4.3	34	31	3,169	8.4	40	31	3,139	6.1	36	31	2,777	-14.3	69	30	3,154	8.2	42
650----	31	3,359	-17.3	50	31	3,681	- 1.1	35	29	3,721	.3	32	31	3,780	4.1	38	31	3,745	1.4	41	31	3,345	-17.9	65	30	3,763	3.4	43
600----	31	3,946	-20.9	44	31	4,311	- 5.2	38	29	4,354	- 3.8	31	31	4,423	.4		31	4,381	- 3.2	43	30	3,932	-21.9	63	30	4,405	- .9	36
550----	31	4,589	-24.9	45	31	4,991	- 9.3	31	29	5,035	- 8.2		30	5,115	- 3.8		31	5,065	- 7.7	42	30	4,569	26.1	61	30	5,093	- 4.9	
500----	31	5,271	-29.0	42	31	5,719	-14.3		29	5,767	-13.3		30	5,862	- 8.8		31	5,798	-12.3	34	30	5,249	-30.7	59	30	5,837	- 9.4	
450----	31	6,025	-34.0		31	6,516	-19.9		29	6,565	-19.1		29	6,684	-14.3		31	6,605	-17.8		30	5,995	-36.0	60	29	6,651	-15.2	
400----	31	6,832	-39.0		31	7,372	-26.2		29	7,426	-25.3		29	7,555	-20.9		31	7,465	-24.3		30	6,797	-41.7		29	7,522	-21.9	
350----	31	7,735	-44.3		31	8,324	-33.2		29	8,381	-32.5		29	8,526	-28.4		31	8,424	-31.7		30	7,689	-48.2		29	8,490	-29.4	
300----	30	8,758	-48.3		31	9,389	-40.9		28	9,455	-40.4		29	9,611	-36.7		30	9,504	-39.6		30	8,689	-54.4		25	9,572	-37.7	
250----	30	9,953	-49.5		31	10,607	-48.6		28	10,675	-48.6		29	10,847	-45.9		30	10,725	-48.3		30	9,849	-55.7		22	10,818	-46.6	
200----	29	11,417	-49.0		30	12,061	-55.5		28	12,116	-56.1		29	12,299	-55.4		30	12,169	-55.1		30	11,282	-51.9		19	12,258	-56.0	
175----	29	12,291	-49.8		30	12,907	-57.7		28	12,958	-59.4		29	13,141	-60.1		30	13,015	-57.5		30	12,149	-50.8		17	13,105	-60.3	
150----	29	13,296	-50.6		29	13,865	-60.3		27	13,912	-61.8		29	14,092	-64.3		30	13,982	-60.3		30	13,153	-50.3		16	14,063	-64.1	
125----	28	14,487	-51.0		28	14,993	-63.1		27	15,031	-65.0		28	15,192	-68.8		29	15,106	-63.9		30	14,342	-50.1		7	15,151	-68.7	
100----	26	15,926	-51.3		28	16,357	-64.8		26	16,377	-67.8		27	16,508	-72.7		29	16,465	-66.0		26	15,802	-50.2					
80-----	25	17,370	-51.5		26	17,722	-64.3		23	17,720	-65.9		24	17,822	-70.4		29	17,816	-65.8		19	17,251	-51.1					
60-----	20	19,245	-52.3		25	19,487	-61.4		20	19,481	-62.4		21	19,554	-63.4		27	19,580	-62.0		15	19,104	-51.9					
50-----	16	20,439	-52.7		25	20,621	-59.6		20	20,610	-60.0		20	20,679	-60.1		27	20,711	-60.1		15	20,283	-52.4					
40-----	13	21,873	-52.4		25	22,023	-57.5		18	22,018	-57.2		20	22,079	-57.0		27	22,108	-58.1		14	21,731	-52.3					
30-----	7	23,795	-53.3		19	23,867	-54.6		8	23,826	-55.6		18	23,913	-53.2		22	23,930	-55.2		8	23,616	-51.0					
20-----					10	26,526	-51.5						8	26,522	-50.6		10	26,532	-51.8									
15-----					5	28,364	-50.4																					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

OCTOBER 1955

Standard pressure surface (mb)	GLASGOW, MONT. (936 MB.)				GRAND JUNCTION, COLO. (854 MB.)				GREAT FALLS, MONT (886 MB.)				GREEN BAY, WIS. (987 MB.)				GREENSBORO, N. C. (986 MB.)				HATTERAS, N. C. (1016 MB.)				HILO, T. H. (1014 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	648	9.4	48	30	1,474	14.6	27	31	1,123	9.4	49	31	210	9.2	77	31	273	12.5	83	31	3	19.1	76	31	9	24.4	74
1,000	31	100			30	109			31	104			31	96			31	150			31	143	19.2	68	31	134	22.6	74
950	31	534			30	561			31	545			31	528	10.3	67	31	587	15.6	56	31	585	16.3	63	31	583	19.0	80
900	31	986	11.7	36	30	1,025			31	996			31	972	7.7	65	31	1,042	12.7	56	31	1,040	13.7	53	31	1,042	15.6	83
850	31	1,461	8.9	38	30	1,514			31	1,471	10.3	44	31	1,441	5.7	62	31	1,520	10.0	51	31	1,520	11.7	42	31	1,526	13.0	82
800	31	1,960	5.6	42	30	2,030	14.9	23	31	1,973	7.2	45	31	1,935	3.7	60	31	2,023	8.0	48	31	2,025	9.3	39	31	2,035	11.1	73
750	31	2,487	2.2	44	30	2,578	10.8	26	31	2,505	3.2	50	31	2,464	1.1	57	31	2,559	5.5	46	31	2,561	6.3	38	31	2,584	10.0	48
700	31	3,037	- 1.4	42	30	3,142	6.3	30	31	3,055	- .6	53	31	3,009	- 2.0	55	31	3,114	2.3	47	31	3,119	3.3	36	31	3,146	8.1	42
650	31	3,627	- 5.0	39	30	3,752	1.5	35	31	3,648	- 4.2	50	31	3,600	- 5.0	50	31	3,716	- 1.0	41	31	3,720	.2	29	31	3,762	4.9	38
600	30	4,247	- 8.9	42	30	4,383	- 3.1	37	31	4,271	- 8.2	49	31	4,218	- 8.6	51	31	4,344	- 4.4	33	31	4,354	- 3.5		31	4,403	.8	35
550	30	4,919	-13.2	41	30	5,071	- 7.8	36	31	4,942	-12.7	48	31	4,890	-12.6	48	31	5,028	- 8.4	36	31	5,037	- 7.8		31	5,098	- 3.6	29
500	30	5,634	-17.9	45	30	5,801	-12.5		31	5,661	-17.9	49	31	5,611	-17.3	45	31	5,758	-12.9	31	31	5,771	-12.5		31	5,843	- 8.4	30
450	30	6,421	-23.2	43	30	6,605	-18.1		31	6,447	-23.2	45	31	6,400	-22.7	41	30	6,558	-18.7		31	6,573	-18.0		31	6,663	-13.8	30
400	30	7,265	-29.4	41	30	7,465	-24.9		31	7,294	-29.6	44	31	7,246	-28.7	36	30	7,416	-25.0	31	31	7,438	-23.8		31	7,538	-20.5	30
350	30	8,203	-36.9		30	8,421	-32.2		31	8,232	-36.6		31	8,188	-35.5		30	8,371	-32.3		31	8,399	-30.7		31	8,511	-27.9	
300	30	9,250	-44.9		30	9,491	-40.3		31	9,282	-43.8		31	9,244	-42.4		30	9,441	-40.0		31	9,474	-38.5		31	9,599	-36.4	
250	30	10,447	-51.6		30	10,709	-48.8		31	10,485	-50.9		31	10,455	-49.4		30	10,664	-47.5		31	10,702	-47.3		31	10,837	-46.0	
200	29	11,878	-54.9		30	12,150	-56.0		31	11,917	-55.9		31	11,899	-53.8		29	12,114	-54.5		31	12,148	-55.3		31	12,283	-57.5	
175	29	12,727	-56.5		30	12,995	-57.7		31	12,762	-57.5		31	12,753	-55.0		29	12,963	-57.4		31	12,993	-58.4		29	13,115	-63.3	
150	29	13,701	-57.6		30	13,961	-60.5		31	13,731	-59.1		31	13,732	-57.0		29	13,931	-60.0		31	13,954	-61.4		23	14,056	-68.6	
125	29	14,847	-59.2		30	15,085	-64.5		31	14,871	-59.6		31	14,880	-58.9		29	15,059	-63.7		30	15,074	-65.5		18	15,150	-71.5	
100	29	16,240	-59.4		29	16,438	-67.1		30	16,262	-60.6		31	16,272	-60.5		29	16,420	-65.7		29	16,420	-67.1		11	16,480	-72.7	
80	26	17,634	-58.6		28	17,786	-66.0		30	17,653	-59.8		30	17,661	-60.5		28	17,771	-64.6		28	17,768	-65.5					
60	26	19,441	-58.2		26	19,545	-62.3		29	19,452	-58.8		27	19,452	-59.2		26	19,549	-60.3		26	19,532	-61.4					
50	25	20,595	-58.2		25	20,675	-60.0		23	20,608	-58.4		27	20,595	-58.9		25	20,693	-58.5		26	20,666	-59.5					
40	24	21,999	-57.5		24	22,069	-58.3		21	22,013	-57.7		24	22,005	-58.3		23	22,103	-56.3		23	22,068	-56.8					
30	21	23,828	-56.9		22	23,901	-55.2		19	23,833	-55.8		22	23,824	-56.9		20	23,940	-54.6		19	23,905	-54.3					
20	5	26,422	-56.5		19	26,487	-53.1		8	26,442	-54.0		13	26,402	-54.6		7	26,576	-52.0		9	26,507	-52.6					
15					12	28,306	-53.0						6	28,239	-53.4						5	28,391	-51.5					
10					5	30,918	-51.3																					

Standard pressure surface (mb)	INTERNAT.FALLS, MINN. (969 MB.)				KOTZEBUE, ALASKA (1001 MB.)				LAKE CHARLES, LA. (1017 MB.)				LANDER, WYO. (830 MB.)				LAS VEGAS, NEV. (937 MB.)				LITTLE ROCK, ARK. (1007 MB.)				MAZATLAN, MEXICO (1008 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	360	6.1	74	31	5	- 4.6	82	31	5	19.8	73	31	1,696	10.3	39	31	660	21.9	19	31	79	15.9	74	28	14	28.6	77
1,000	31	94			31	9			31	148	21.7	60	31	104			31	85			31	141	17.7	65	28	87	28.0	78
950	31	521	7.1	66	31	417	- 6.3	76	31	595	19.3	58	31	545			31	535			31	585	16.9	52	28	549	25.5	77
900	31	962	6.3	63	31	834	- 8.7	74	31	1,055	16.6	54	31	1,003			31	1,011	24.9	19	31	1,040	14.1	52	28	1,019	23.9	67
850	31	1,429	4.4	58	31	1,275	-10.9	73	31	1,540	14.3	48	31	1,492			31	1,507	21.0	21	31	1,520	12.0	50	28	1,517	21.4	54
800	31	1,921	2.0	56	31	1,738	-13.1	72	31	2,050	12.2	42	31	2,000	12.0	30	31	2,027	16.5	25	31	2,026	9.7	46	28	2,040	18.2	50
750	31	2,446	- .1	50	31	2,235	-15.7	71	31	2,592	9.7	37	31	2,538	8.4	30	31	2,575	11.7	30	31	2,565	7.4	40	28	2,591	14.2	54
700	31	2,989	- 3.1	47	31	2,745	-18.4	66	31	3,159	7.0	30	31	3,102	4.2	33	31	3,144	7.2	33	31	3,125	4.7	33	26	3,168	9.9	55
650	31	3,577	- 6.3	49	31	3,301	-21.8	61	30	3,768	3.7		31	3,700	- .3	36	31	3,753	2.9	31	31	3,730	1.3	31	25	3,780	5.4	58
600	30	4,197	- 9.6	44	30	3,880	-25.5	59	30	4,409	.2		31	4,336	- 4.4	37	31	4,392	- 1.2	26	31	4,365	- 2.5		25	4,430	1.2	
550	30	4,864	-13.6	41	30	4,513	-29.6	59	30	5,106	- 3.8		31	5,014	- 9.1	34	31	5,082	- 5.8		31	5,053	- 6.6		23	5,122	- 3.0	
500	30	5,582	-18.6	42	30	5,179	-34.2	57	30	5,846	- 9.0		31	5,745	-14.4	35	31	5,819	-11.2		31	5,787	-11.3		22	5,873	- 7.1	
450	30	6,364	-24.1	40	29	5,918	-39.1		28	6,665	-14.7		31	6,537	-20.3	35	31	6,629	-17.4		31	6,597	-17.1		21	6,692	-12.0	
400	30	7,206	-30.5	39	29	6,709	-44.5		28	7,536	-21.0		31	7,395	-27.1	36	31	7,491	-24.1		31	7,459	-23.6		18	7,574	-18.6	
350	28	8,151	-36.9		29	7,590	-50.5		28	8,506	-28.6		31	8,342	-34.5		31	8,450	-31.7		31	8,420	-30.8		17	8,557	-26.4	
300	28	9,200	-44.1		29	8,583	-54.7		27	9,589	-36.7		31	9,399	-42.5		31	9,521	-39.9		31	9,496	-38.6		16	9,657	-34.6	
250	28	10,404	-50.2		28	9,754	-51.8		26	10,827	-45.5		31	10,606	-50.6		31	10,741	-48.5		31	10,725	-46.5		15	10,900	-44.4	
200	27	11,849	-53.5		27	11,211	-49.7		26	12,281	-55.2		31	12,037	-56.4		31	12,183	-55.5		31	12,177	-54.9		7	12,362	-55.5	
175	27	12,705	-54.3		27	12,084	-49.6		26	13,123	-59.5		31	12,880	-57.7		31	13,029	-57.9		31	13,024	-58.4					
150	25	13,694	-55.4		27	13,093	-49.2		25	14,084	-64.1		31	13,846	-60.2		31	13,992	-61.7		30	13,991	-62.4					
125	23	14,851	-56.7		25	14,287	-49.2		24	15,185	-68.6		31	14,975	-62.6		28	15,107	-65.7		29	15,105	-66.4					
100	22	16,257	-58.1		23	15,752	-50.0		23	16,507	-71.7		26	16,343	-63.8		25	16,456	-68.3		28	16,441	-68.7					
80	21	17,663	-57.7		18	17,230	-50.3		22	17,818	-70.4		26	17,710	-62.9		23	17,790	-66.8		24	17,772	-66.7					
60	18	19,485	-57.9		14	19,100	-51.1		22	19,554	-63.2		25	19,488	-60.9		20	19,546	-62.5		22	19,529	-61.4					
50	17	20,632	-57.7		11	20,280	-51.3		22	20,683	-60.1		23	20,632	-59.5		19	20,680	-60.5		22	20,664	-59.1					
40	14	22,029	-57.4		8	21,755	-50.2		21	22,083	-56.8		19	22,037	-57.5		17	22,076	-58.2		17	22,067	-56.3					
30	12	23,851	-56.0						21	23,917	-53.8		17	23,875	-55.4		16	23,904	-54.4		11	23,880	-53.6					
20									9	26,533	-50.5		6	26,472	-53.6		13	26,535	-50.7									
15																	7	28,382	-49.6									

Standard pressure surface (mb)	MC GRATH, ALASKA (987 MB.)				MEDFORD, ORE. (971 MB.)				MIAMI, FLA. (1014 MB.)				MIDLAND, TEX. (918 MB.)				NANTUCKET, MASS. (1015 MB.)				NASHVILLE, TENN. (966 MB.)				NOME, ALASKA (999 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	103	- 2.7	77	31	401	13.9	73	31	4	24.2	75	31	871	18.2	43	31	14	12.6	88	30	177	14.1	76	31	7	- 1.9	75
1,000	31	6			31	148			31	129	23.9	70	31	125			31	139	13.2	81	30	144			31	3		
950	31	403	- 4.4	75	31	590	15.6	59	31	579	21.0	73	31	578			31	574	12.1	70	30	580	15.2	52	31	407	- 4.4	72
900	31	824	- 6.9	76	31	1,041	13.5	57	31	1,043	17.9	74	31	1,041	19.7	37	31	1,022	10.1	66	30	1,035	12.2	51	31	827	- 7.4	73
850	31	1,268	- 8.5	75	31	1,520	10.5	61	31	1,530	15.0	71	31	1,531	17.4	36	31	1,496	8.2	58	30	1,512	9.9	48	31	1,269	- 9.9	70
800	31	1,736	-10.6	70	31	2,022	7.5	59	31	2,042	12.5	62	31	2,046	14.5	35	31	1,995	6.3	53	30	2,014	7.7	47	31	1,735	-12.6	67
750	31	2,232	-13.3	67	31	2,558	4.3	58	31	2,585	10.1	53	31	2,593	11.2	34	31	2,527	3.8	52	30	2,552	5.1	43	31	2,228	-15.6	63
700	31	2,752	-16.3	64	31	3,109	1.3	53	31	3,153	7.9	43	31	3,160	7.4	35	31	3,080	1.1	52	30	3,104	2.3	39	31	2,742	-18.7	58
650	31	3,309	-19.7	62	31	3,705	- 2.3	48	31	3,765	4.5	40	31	3,775	3.7	31	31	3,677	- 2.4	53	30	3,707	- 1.2	33	30	3,289	-22.1	53
600	31	3,895	-23.4	62	31	4,334	- 5.7	42	31	4,408	.5	36	31	4,411	- .3		30	4,305	- 5.8	46	30	4,332	- 4.7		30	3,867	-26.0	51
550	31	4,530	-27.6	61	31	5,014	- 9.3	36	31	5,101	- 4.0		31	5,103	- 4.5		29	4,981	- 9.6	44	30	5,016	- 8.8		30	4,495	-30.2	48
500	31	5,204	-32.0	57	30	5,745	-13.6	34	31	5,846	- 8.6	38	31	5,846	- 9.4		29	5,708	-14.1	42	30	5,743	-13.6		30	5,163	-34.7	44
450	30	5,946	-37.0	55	30	6,547	-19.1	32	31	6,665	-13.6		31	6,661	-15.3		28	6,514	-19.5	42	30	6,546	-19.2		30	5,897	-39.4	
400	30	6,747	-42.4		30	7,404	-25.4	33	31	7,542	-19.7		31	7,530	-21.9		28	7,371	-25.7	43	30	7,402	-25.1		30	6,688	-44.1	
350	29	7,636	-48.1		30	8,358	-32.7	33	31	8,520	-26.6		31	8,498	-29.5		28	8,324	-33.0		30	8,357	-32.4		30	7,574	-48.5	
300	28	8,640	-52.7		30	9,423	-41.1		31	9,613	-35.1		31	9,580	-37.6		28	9,391	-40.9		30	9,427	-39.6		30	8,579	-51.7	
250	27	9,811	-52.3		30	10,636	-49.8		31	10,858	-44.6		30	10,809	-46.9		28	10,607	-49.4		30	10,653	-47.0		29	9,764	-50.8	
200	26	11,253	-49.5		30	12,070	-56.9		31	12,316	-55.3		30	12,257	-55.8		28	12,045	-55.7		30	12,107	-53.8		28	11,207	-48.5	
175	26	12,129	-48.4		30	12,910	-59.2		31	13,157	-60.9		30	13,097	-60.1		28	12,890	-58.1		30	12,958	-57.2		28	12,086	-48.1	
150	25	13,131	-48.3		30	13,869	-61.4		31	14,102	-66.5		29	14,050	-64.4		27	13,857	-60.9		30	13,925	-60.1		28	13,101	-48.0	
125	23	14,329	-48.3		30	14,993	-63.5		30	15,189	-71.8		29	15,150	-69.3		26	14,980	-63.2		30	15,053	-63.4		26	14,304	-48.4	
100	20	15,801	-48.6		30	16,358	-64.3		27	16,500	-74.8		25	16,465	-72.6		26	16,346	-64.1		29	16,408	-65.9		22	15,787	-48.5	
80	12	17,287	-49.1		29	17,726	-62.7		26	17,801	-71.4		22	17,775	-69.7		25	17,720	-62.3		28	17,764	-64.7		18	17,268	-48.8	
60	8	19,181	-49.7		29	19,508	-60.4		24	19,524	-64.9		18	19,525	-62.9		23	19,499	-60.6		28	19,537	-60.6		15	19,170	-49.4	
50	8	20,375	-48.9		29	20,645	-59.4		24	20,644	-61.6		17	20,653	-59.5		21	20,634	-59.1		27	20,684	-58.6		13	20,379	-49.2	
40	6	21,848	-49.5		29	22,045	-57.8		22	22,039	-58.3		16	22,058	-56.7		19	22,031	-57.5		25	22,100	-56.3		9	21,869	-49.6	
30	5	23,702	-48.8		25	23,864	-55.7		21	23,869	-54.5		15	23,889	-53.6		16	23,869	-55.4		20	23,962	-53.2					
20					10	26,463	-53.6		17	26,496	-49.2		7	26,528	-51.1		9	26,453	-53.4		7	26,613	-50.6					
15									6	28,386	-47.1																	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb.)	NORTH PLATTE, NEBR. (918 MB.)				OAKLAND, CALIF. (1016 MB.)				OKLAHOMA CITY, OKLA. (971 MB.)				OMAHA, NEBR. (967 MB.)				PHOENIX, ARIZ. (972 MB.)				PITTSBURGH, PA. (974 MB.)				PORTLAND, ME. (1015 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	848	9.0	65	31	6	14.8	78	31	391	14.8	68	31	403	12.3	59	31	341	25.4	35	30	353	11.2	76	31	20	7.7	87
1,000--	30	119			31	139	15.6	71	31	138			31	116			31	91			30	133			31	141	9.8	75
950----	30	554			31	580	16.8	54	31	578	18.0	49	31	552	14.1	48	31	548	29.3	19	30	566	12.1	67	31	573	8.7	69
900----	30	1,009	13.1	49	31	1,036	16.5	38	31	1,040	16.5	43	31	1,005	12.2	45	31	1,025	25.9	19	30	1,015	10.0	62	31	1,013	7.0	67
850----	30	1,490	12.6	43	31	1,521	14.8	32	31	1,524	14.3	40	31	1,482	10.0	43	31	1,524	21.8	22	30	1,489	7.7	57	31	1,482	5.6	63
800----	30	1,996	9.8	40	31	2,031	11.9	29	31	2,033	11.7	35	31	1,984	7.5	42	31	2,045	17.4	26	30	1,987	5.6	52	31	1,976	3.9	57
750----	30	2,536	6.6	39	31	2,575	8.7	27	31	2,575	8.5	34	31	2,520	5.0	39	31	2,597	12.5	30	30	2,517	2.9	49	31	2,503	1.9	54
700----	30	3,091	3.3	33	31	3,135	5.5	28	31	3,136	5.2	31	31	3,072	1.6	40	31	3,165	7.7	34	30	3,068	.1	47	31	3,053	- .8	52
650----	30	3,690	- .7	31	30	3,741	1.6	27	31	3,745	1.7		31	3,669	- 1.9	41	31	3,775	3.3	35	30	3,661	- 3.4	42	29	3,639	- 4.2	49
600----	30	4,322	- 4.7		30	4,377	- 2.6	31	31	4,378	- 2.1		31	4,297	- 5.7	41	31	4,415	- .5		30	4,286	- 7.1	35	29	4,262	- 7.7	48
550----	30	4,998	- 9.4		30	5,062	- 7.3	29	31	5,065	- 6.0		31	4,971	-10.3	37	31	5,107	- 5.1		30	4,959	-11.3	36	29	4,934	-11.6	42
500----	30	5,730	-14.4		30	5,797	-12.4	27	31	5,804	-11.0		31	5,700	-15.3	33	31	5,846	-10.2		30	5,664	-15.9	35	29	5,658	-16.3	38
450----	30	6,524	-20.5		30	6,603	-18.0		30	6,612	-17.0		31	6,493	-21.1		31	6,661	-15.9		30	6,475	-21.2		28	6,456	-21.6	40
400----	30	7,380	-27.1		29	7,460	-24.8		30	7,479	-23.4		31	7,346	-27.4		31	7,526	-22.6		30	7,328	-27.3	38	28	7,309	-27.8	42
350----	30	8,327	-34.5		29	8,416	-32.6		30	8,440	-30.8		30	8,298	-34.2		31	8,491	-29.8		30	8,275	-34.5		28	8,254	-34.8	
300----	30	9,385	-42.0		29	9,482	-41.0		30	9,515	-38.9		30	9,359	-41.5		31	9,569	-38.2		30	9,336	-41.3		27	9,307	-42.6	
250----	29	10,609	-49.5		29	10,698	-49.1		30	10,740	-47.6		29	10,580	-49.1		31	10,796	-47.4		29	10,549	-47.9		24	10,517	-49.9	
200----	29	12,050	-55.2		29	12,139	-55.4		28	12,179	-55.4		28	12,041	-54.9		30	12,239	-55.7		29	12,000	-54.1		23	11,967	-55.2	
175----	29	12,897	-57.3		29	12,985	-58.2		28	13,023	-58.9		28	12,890	-56.8		30	13,081	-59.4		29	12,852	-56.0		22	12,806	-56.9	
150----	29	13,865	-59.8		29	13,947	-61.2		28	13,981	-62.7		28	13,861	-59.0		30	14,035	-63.4		27	13,825	-58.4		21	13,787	-59.1	
125----	28	14,997	-62.6		29	15,069	-64.6		27	15,092	-66.3		28	14,995	-62.0		30	15,142	-67.7		23	14,981	-61.2		20	14,926	-61.1	
100----	27	16,362	-64.4		29	16,424	-66.4		25	16,426	-68.9		27	16,364	-63.6		28	16,472	-70.7		17	16,369	-63.1		18	16,297	-61.9	
80-----	27	17,725	-64.3		29	17,775	-65.4		23	17,756	-66.2		26	17,731	-62.4		26	17,797	-69.2		9	17,739	-62.0		16	17,680	-60.1	
60-----	23	19,500	-61.4		26	19,540	-62.7		22	19,516	-61.8		23	19,517	-60.6		24	19,539	-63.6		6	19,521	-60.5		16	19,472	-59.9	
50-----	20	20,636	-59.2		26	20,668	-60.5		21	20,651	-59.1		23	20,654	-59.5		22	20,673	-60.5						16	20,613	-59.1	
40-----	20	22,038	-57.5		24	22,067	-58.0		19	22,052	-57.2		21	22,048	-57.6		22	22,072	-57.1						12	22,029	-58.1	
30-----	14	23,900	-55.0		22	23,892	-55.3		18	23,889	-54.1		17	23,896	-54.6		17	23,908	-53.9						8	23,820	-56.6	
20-----	6	26,508	-53.0		10	26,504	-52.8		11	26,534	-51.2		10	26,498	-52.5		9	26,523	-50.6									
15-----													6	28,371	-51.0													

Standard pressure surface (mb.)	RAPID CITY, S. DAK. (904 MB.)				ST. CLOUD, MINN. (974 MB.)				SAN ANTONIO, TEX. (989 MB.)				SAN JUAN, P. R. (1011 MB.)				SANTA MARIA, CALIF. (1007 MB.)				S. STE. MARIE, MICH. (986 MB.)				SPOKANE, WASH. (932 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	966	9.5	54	31	316	8.3	73	31	243	21.5	47	31	19	25.1	87	31	74	13.6	81	31	221	8.0	86	31	722	8.4	82
1,000--	31	111			31	97			31	141			31	122	25.7	81	31	131	13.8	78	31	100			31	134		
950----	31	545			31	528	10.7	60	31	586	22.0	44	31	582	23.5	79	31	573	17.0	58	31	525	8.5	76	31	567		
900----	31	1,002			31	975	9.1	56	31	1,055	18.8	46	31	1,046	20.7	77	31	1,028	18.8	33	31	971	6.7	72	31	1,012	9.1	71
850----	31	1,481	11.6	43	31	1,447	6.6	54	31	1,544	15.8	44	31	1,539	17.7	76	31	1,516	16.3	30	31	1,438	4.2	69	31	1,484	6.6	66
800----	31	1,985	8.5	45	31	1,942	4.5	47	31	2,056	13.6	39	31	2,057	14.9	73	31	2,029	13.5	25	31	1,930	2.1	65	31	1,979	3.6	65
750----	31	2,518	5.2	43	31	2,473	2.3	42	31	2,601	11.1	33	31	2,606	12.0	67	31	2,574	10.1	26	31	2,454	.0	62	31	2,508	.9	64
700----	31	3,075	1.5	43	31	3,020	- .7	40	31	3,170	7.9	32	31	3,177	9.0	58	31	3,138	6.1	25	31	2,999	- 2.8	55	31	3,052	- 2.2	63
650----	31	3,671	- 2.4	40	31	3,611	- 4.5	41	31	3,778	4.4	33	31	3,793	5.7	52	31	3,742	2.2	23	31	3,586	- 6.1	48	31	3,645	- 5.6	59
600----	31	4,299	- 6.8	40	31	4,235	- 8.2	39	31	4,425	.7		31	4,438	1.7	48	31	4,381	- 1.9		31	4,205	- 9.5	44	30	4,264	- 9.3	55
550----	31	4,970	-11.3	40	31	4,906	-12.2	39	31	5,116	- 3.8		31	5,137	- 2.3	43	31	5,068	- 6.0		31	4,871	-13.6	43	30	4,938	-13.6	50
500----	31	5,697	-16.3	39	31	5,627	-16.8	37	31	5,864	- 8.7		31	5,886	- 6.6	37	31	5,808	-10.9		31	5,590	-18.3	42	30	5,649	-18.7	50
450----	30	6,486	-22.0	39	31	6,418	-22.3	36	31	6,679	-14.1		31	6,712	-11.7	35	31	6,616	-16.9		30	6,373	-23.7	43	30	6,432	-24.3	52
400----	30	7,338	-28.7	37	31	7,266	-28.5	38	31	7,555	-20.4		31	7,594	-17.5	32	31	7,481	-23.8		30	7,219	-29.7	42	30	7,274	-30.1	52
350----	30	8,279	-36.1		31	8,208	-35.8		31	8,528	-27.9		31	8,579	-24.8	35	31	8,441	-31.3		30	8,156	-36.5		30	8,211	-36.6	52
300----	30	9,329	-44.1		31	9,263	-43.1		31	9,614	-36.5		31	9,680	-33.2		31	9,512	-39.8		28	9,216	-43.2		29	9,262	-43.6	
250----	29	10,536	-51.8		31	10,472	-49.9		30	10,849	-46.0		31	10,934	-43.4		31	10,733	-48.5		27	10,413	-49.6		29	10,466	-50.8	
200----	26	11,952	-57.5		31	11,914	-53.9		30	12,299	-56.0		31	12,396	-55.4		31	12,177	-54.9		22	11,870	-53.3		29	11,898	-56.0	
175----	23	12,781	-57.9		31	12,770	-55.0		29	13,138	-60.6		31	13,234	-61.9		30	13,028	-57.4		20	12,706	-54.2		29	12,743	-57.2	
150----	20	13,751	-60.2		31	13,752	-56.2		29	14,085	-65.7		30	14,174	-68.4		30	13,992	-61.2		16	13,718	-57.1		29	13,715	-58.2	
125----	10	14,923	-61.7		31	14,905	-58.1		28	15,173	-71.0		30	15,249	-74.7		29	15,113	-65.2		12	14,869	-58.9		29	14,855	-60.3	
100----	5	16,260	-59.6		31	16,303	-60.2		27	16,472	-74.9		22	16,532	-78.4		28	16,454	-67.9		10	16,284	-59.6		29	16,241	-61.1	
80-----					31	17,695	-60.0		26	17,767	-71.9		16	17,811	-73.6		26	17,793	-66.4		6	17,673	-59.0		29	17,631	-59.5	
60-----					30	19,495	-58.9		23	19,491	-64.0		15	19,519	-66.5		26	19,548	-62.8						29	19,432	-59.0	
50-----					29	20,638	-59.0		21	20,619	-60.5		15	20,633	-62.5		24	20,676	-60.1						29	20,578	-58.0	
40-----					28	22,042	-58.4		21	22,017	-57.1		14	22,010	-59.9		22	22,088	-57.2						25	21,980	-57.5	
30-----					26	23,871	-56.7		15	23,847	-54.0		14	23,824	-55.9		17	23,904	-54.2						24	23,803	-56.1	
20-----					14	26,444	-55.4		6	26,477	-50.6		8	26,452	-50.7		6	26,468	-52.2						21	26,387	-54.1	
15-----					7	28,234	-54.9																		11	28,261	-52.0	

Standard pressure surface (mb.)	TAMPA, FLA. (1016 MB.)				TATOOSH ISLAND, WASH. (1012 MB.)				TOPEKA, KANS. (984 MB.)				WASHINGTON, D. C. (1007 MB.)				YAKUTAT, ALASKA (998 MB.)				YUMA, ARIZ. (998 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	7	20.8	83	31	31	10.5	87	31	269	13.4	68	31	88	13.3	78	31	12	4.2	87	30	105	29.2	26
1,000--	31	141	21.6	76	31	127	10.7	81	31	127			31	145			31	2			30	86		
950----	31	590	20.0	69	31	556	9.0	76	31	563	15.1	51	31	584	14.1	61	31	420	3.1	75	30	541	27.9	26
900----	31	1,052	16.9	70	31	1,001	6.9	69	31	1,019	12.8	51	31	1,034	11.8	58	31	851	.2	74	30	1,017	24.4	27
850----	31	1,537	14.0	66	31	1,469	4.8	65	31	1,497	10.4	49	31	1,511	9.4	54	31	1,307	- 2.9	74	30	1,513	20.6	26
800----	31	2,047	11.6	54	31	1,961	1.7	65	31	1,999	7.9	47	31	2,011	7.1	47	31	1,784	- 5.8	71	30	2,032	16.5	27
750----	31	2,594	9.5	45	31	2,482	- .7	56	31	2,535	5.4	42	31	2,545	4.4	45	31	2,293	- 8.8	65	30	2,580	12.1	30
700----	31	3,155	7.4	39	31	3,028	- 3.6	51	31	3,090	2.0	40	30	3,100	1.2	43	31	2,818	-12.2	61	30	3,150	7.7	32
650----	31	3,769	3.9	32	31	3,612	- 7.3	56	31	3,688	- 1.8	41	30	3,700	- 1.6	42	31	3,387	-15.8	55	30	3,756	3.7	28
600----	31	4,409	.4	30	31	4,230	-10.7	50	31	4,316	- 5.5	35	29	4,333	- 5.0	36	31	3,980	-19.9	56	30	4,402	- .1	
550----	31	5,106	- 4.2		31	4,895	-14.5	45	30	4,989	-10.1	31	28	5,006	- 9.9		31	4,621	-24.4	54	30	5,091	- 4.8	
500----	31	5,847	- 8.8		31	5,611	-18.8	44	30	5,716	-14.9		28	5,735	-14.8		31	5,307	-29.3	49	30	5,834	-10.1	
450----	31	6,666	-14.2		31	6,395	-23.7	45	30	6,512	-20.3		28	6,533	-20.1		31	6,055	-34.6	47	30	6,642	-16.1	
400----	31	7,539	-20.3		31	7,240	-29.6	47	29	7,364	-26.5		28	7,387	-26.2		31	6,864	-40.5		30	7,514	-22.4	
350----	31	8,513	-27.6		31	8,178	-36.3	51	29	8,314	-33.6		27	8,330	-33.4		31	7,762	-46.3		30	8,479	-29.8	
300----	30	9,598	-35.9		31	9,230	-43.5		29	9,378	-40.8		26	9,388	-40.8		30	8,771	-51.5		29	9,559	-38.1	
250----	30	10,840	-45.1		31	10,435	-50.4		29	10,595	-48.3		26	10,607	-48.1		29	9,954	-53.0		28	10,791	-46.7	
200----	30	12,297	-55.3		28	11,893	-55.1		29	12,040	-55.2		26	12,053	-54.2		28	11,400	-50.8		26	12,234	-54.9	
175----	30	13,138	-60.6		27	12,738	-56.3		29	12,887	-57.4		26	12,903	-57.1		28	12,271	-49.9		24	13,082	-58.5	
150----	30	14,087	-65.5		25	13,713	-57.7		29	13,854	-60.1		25	13,879	-59.7		28	13,278	-50.1		23	14,044	-62.6	
125----	30	15,183	-69.8		25	14,857	-59.0		29	14,981	-63.4		24	15,009	-62.5		24	14,465	-50.2		17	15,162	-66.9	
100----	28	16,501	-72.6		22	16,252	-59.7		24	16,339	-65.5		22	16,366	-64.2		21	15,922	-49.6					
80-----	28	17,816	-69.4		22	17,646	-58.9		20	17,689	-64.7		18	17,733	-63.3		17	17,367	-49.9					
60-----	26	19,551	-63.3		21	19,452	-57.5		14	19,452	-61.3		17	19,518	-60.3		13	19,239	-50.5					
50-----	24	20,679	-61.0		19	20,605	-56.9		11	20,593	-59.3		17	20,657	-58.6		13	20,425	-50.9					
40-----	23	22,076	-57.6		18	22,016	-56.9		9	21,994	-56.4		16	22,071	-56.3		9	21,886	-51.4					
30-----	21	23,900	-53.8		14	23,838	-55.7		8	23,833	-54.7		16	23,903	-54.4									
20-----	9	26,517	-49.3										11	26,507	-51.8									

* Observations began with 2100 G.C.T. observation, October 19, 1955.

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for June 1955

Standard pressure surface (mb)	DENVER, COLO. (831 MB.)				FT. WORTH, TEX. (991 MB.)				OGDEN, UTAH (852 MB.)				RANTOUL, ILL. (987 MB.)				ROME, N. Y. (994 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	21	1,661	17.3	44	30	178	25.6	62	30	1,450	20.2	37	30	227	18.2	66	30	146	15.4	74
1,000--	21	47			30	98			30	51			30	109			30	102		
950----	21	503			30	556	24.6	59	30	503			30	558	18.6	62	30	543	17.1	64
900----	21	978			30	1,023	21.0	64	30	976			30	1,014	15.7	63	30	1,002	14.8	62
850----	21	1,469			30	1,515	17.7	67	30	1,474			30	1,497	12.2	66	30	1,483	11.4	67
800----	21	1,988	16.2	45	30	2,032	15.0	58	30	1,994	17.1	37	30	2,002	9.3	60	30	1,987	7.9	71
750----	21	2,539	12.6	48	30	2,582	12.0	51	30	2,540	12.7	39	30	2,544	6.3	56	30	2,523	4.2	69
700----	21	3,108	8.3	52	30	3,150	8.5	47	30	3,114	7.8	44	30	3,097	3.1	53	30	3,075	.7	63
650----	21	3,719	3.5	57	30	3,764	4.6	45	30	3,718	2.9	48	30	3,701	- .2	51	30	3,668	- 2.7	59
600----	21	4,360	- 1.1	58	30	4,406	.0	45	30	4,362	- 2.1	50	30	4,331	- 3.9	46	30	4,298	- 6.2	47
550----	21	5,048	- 6.5	57	30	5,095	- 4.9	41	30	5,043	- 7.5	49	30	5,016	- 8.3	42	30	4,975	-10.2	40
500----	21	5,784	-12.2	53	30	5,839	- 9.6	35	30	5,780	-12.9	44	30	5,746	-13.2	38	30	5,702	-15.0	36
450----	21	6,586	-18.2		30	6,651	-15.0		30	6,577	-18.5	39	30	6,549	-18.8	37	30	6,496	-20.6	34
400----	21	7,449	-24.9	46	30	7,525	-21.1		30	7,442	-25.1	36	30	7,407	-25.0		30	7,352	-26.9	39
350----	21	8,405	-32.3		30	8,496	-28.4		30	8,396	-32.8		30	8,362	-32.3		30	8,301	-34.2	
300----	21	9,475	-40.1		30	9,582	-36.5		30	9,460	-41.4		30	9,431	-40.3		30	9,363	-42.4	
250----	20	10,688	-49.3		30	10,820	-46.0		30	10,671	-50.2		30	10,649	-48.7		30	10,573	-50.2	
200----	20	12,124	-56.8		30	12,270	-56.2		30	12,103	-56.5		30	12,090	-55.7		30	12,014	-54.8	
175----	20	12,967	-58.1		30	13,109	-60.6		30	12,948	-57.5		30	12,935	-57.1		30	12,868	-55.0	
150----	20	13,934	-59.3		30	14,058	-64.4		30	13,920	-57.9		30	13,907	-58.4		30	13,854	-54.8	
125----	20	15,072	-60.4		30	15,167	-66.3		30	15,067	-58.5		30	15,052	-59.2		30	15,019	-55.9	
100----	17	16,466	-61.8		24	16,520	-66.9		28	16,465	-60.4		30	16,444	-60.7		30	16,438	-57.0	
80-----	16	17,845	-61.0		20	17,874	-64.3		24	17,858	-59.9		30	17,833	-59.9		30	17,850	-57.6	
60-----	16	19,643	-58.4		18	19,648	-60.9		21	19,664	-58.4		28	19,630	-58.5		30	19,672	-56.7	
50-----	16	20,794	-56.7		18	20,786	-59.0		18	20,814	-56.8		28	20,779	-57.1		30	20,832	-55.3	
40-----	14	22,216	-54.7		16	22,194	-56.4		14	22,235	-54.3		26	22,191	-55.1		29	22,263	-53.4	
30-----	9	24,086	-51.6		14	24,055	-52.4		9	24,069	-51.8		24	24,034	-52.5		23	24,129	-51.2	
20-----					10	26,716	-47.4		5	26,750	-47.7		15	26,669	-49.2		18	26,795	-47.5	
15-----					7	28,623	-45.6						5	28,610	-46.5		9	28,710	-45.1	

* July data for the above Air Force stations will be included in the November issue of this publication.

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, ha formerly been computed and expressed on the basis of the vapor-pressure ov ice. All relative humidity observations are obtained by electric hygromet and have been adjusted to compensate for the value occurring below the opera ing range of the humidity element.

These average values for standard pressure surfaces were obtained by radi sondes; dynamic height (geopotential) in units of .98 dynamic meter, temper ture in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

OCTOBER 1955

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Athens, Ga. (246 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			1/ Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	218	1.9	31	249	2.3	29	234	1.6	30	254	4.1	31	296	2.9	31	258	0.9	30	85	3.1	31	221	3.4	28	168	1.3	31	212	1.0	30	226	3.2	31	186	1.4
500	--	---	----	--	---	----	29	252	2.3	--	---	----	--	---	----	--	---	----	30	80	2.4	30	226	6.0	28	193	3.1	31	257	.7	30	227	3.9	--	---	----
1,000	31	220	2.3	--	---	----	29	256	2.1	--	---	----	30	301	3.8	30	243	.7	30	85	1.4	30	237	7.5	26	214	4.3	31	265	.9	29	238	4.4	--	---	----
1,500	30	243	3.4	--	---	----	28	279	3.3	30	261	7.2	28	289	4.6	31	206	1.4	29	74	1.2	30	245	8.4	22	246	6.2	27	263	3.8	27	261	6.1	31	180	1.0
2,000	30	260	5.0	31	250	3.3	23	278	5.5	30	270	9.1	28	291	7.2	29	231	2.3	25	35	1.8	30	252	9.3	16	264	9.8	24	275	6.1	25	270	7.6	31	219	1.3
2,500	29	269	6.3	31	269	3.3	21	274	5.5	29	272	9.4	25	299	10.0	28	246	3.9	20	28	2.2	31	254	9.9	14	280	12.4	22	277	7.6	22	273	9.4	30	240	2.2
3,000	29	277	6.9	31	276	4.0	21	277	6.6	26	268	9.5	23	299	11.3	28	255	5.3	19	24	1.5	31	252	10.4	12	294	15.1	21	275	8.5	17	273	8.0	30	249	3.5
4,000	28	284	8.0	31	289	6.9	16	295	7.9	20	283	12.0	22	302	13.9	26	257	7.6	15	301	1.4	31	250	11.5				18	274	9.3	15	277	9.8	30	274	4.4
5,000	26	282	8.3	31	290	10.5	13	292	8.9	19	283	14.0	18	290	14.4	24	260	8.8	13	326	2.7	31	252	12.5				18	271	11.8	13	286	10.9	28	273	7.8
6,000	25	283	8.6	30	286	10.2	11	288	10.0	18	280	14.3	17	290	15.1	20	269	9.6	11	327	2.5	31	253	12.5				17	268	14.8	12	284	12.0	24	272	7.4
8,000	14	294	8.5	28	272	16.4										17	274	10.7				28	258	13.5										21	274	10.7
10,000	10	295	15.1	21	266	16.8										13	275	6.1				27	259	16.0										19	271	14.4
12,000				16	259	18.6																24	271	20.7										15	268	19.0
14,000				12	267	18.6																20	260	17.4										12	267	17.6
16,000																						18	263	14.0												

	Ely Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Little Rock Ark. (88 m.)			Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)			2/ Oakland, Calif. (8 m.)		
Surface	31	193	2.1	31	292	2.3	29	282	2.0	31	219	1.4	31	271	4.0	31	47	2.3	31	241	2.2	31	288	1.0	28	55	3.2	30	330	1.7	29	303	1.5	30	275	3.1
500	--	---	----	--	---	----	28	262	3.3	31	230	1.4	--	---	----	29	49	2.0	31	260	3.0	31	290	1.2	28	60	4.4	28	325	1.8	29	272	2.4	30	319	2.1
1,000	--	---	----	--	---	----	28	256	4.8	31	249	1.9	31	262	6.6	29	262	.1	30	264	3.8	31	263	1.4	28	55	3.9	28	324	1.8	28	264	2.9	30	323	1.6
1,500	--	---	----	31	295	2.3	21	261	8.5	30	257	3.1	30	262	9.0	26	266	1.8	30	270	4.8	29	227	3.5	27	42	2.5	24	317	3.4	26	263	4.3	30	278	1.8
2,000	31	199	2.1	31	301	2.3	19	268	9.0	28	256	5.1	28	264	10.5	22	284	3.8	29	286	5.8	25	237	3.9	27	354	1.5	22	311	4.6	22	271	5.2	30	261	1.8
2,500	31	225	3.1	31	273	2.9	17	279	10.5	25	262	6.6	27	266	12.1	19	281	4.1	26	303	7.2	23	234	4.3	25	298	1.9	22	309	5.1	20	279	5.9	30	244	2.7
3,000	31	241	4.0	30	263	4.0	17	281	11.1	23	261	6.7	26	269	12.2	18	284	4.2	26	299	8.3	19	267	2.6	25	265	2.8	19	304	6.6	18	295	6.7	30	263	3.5
4,000	30	251	5.7	26	268	4.7	15	291	13.0	21	261	[illegible].4	19	269	14.7	16	289	6.8	23	304	8.7	19	281	5.7	20	243	4.3	18	292	9.5	17	296	9.1	30	265	3.5
5,000	29	261	8.0	24	284	8.0	14	290	13.3	20	264	11.3	14	278	16.9	14	295	4.7	21	292	9.3	19	271	7.3	17	263	4.1	14	299	6.1	15	300	11.6	30	263	4.2
6,000	26	272	10.3	23	291	9.8	14	293	16.2	19	272	12.6	11	292	18.6	13	290	4.2	18	301	11.6	18	273	5.3	14	274	4.2	13	301	7.1	15	292	14.0	30	271	6.2
8,000	20	260	8.1	21	281	13.3	10	300	15.0	15	277	13.7				10	306	8.0				10	213	2.1	14	278	6.7				14	289	17.3	30	277	8.6
10,000	17	283	8.0	18	270	17.0				13	271	11.6																						30	278	8.6
12,000	12	251	13.5	15	260	16.2				10	272	13.7																						29	277	8.6
14,000																																		29	270	11.7
16,000																																		28	266	10.9

	Omaha, Nebr. (306 m.)			Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			St. Louis, Mo. (181 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			3/ Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			4/ Topeka, Kans. (269 m.)			5/ Washington, D. C. (88 m.)		
Surface	30	290	2.2	31	165	1.2	31	326	1.5	29	280	1.4	28	230	2.3	31	196	0.9	31	274	3.2	31	251	1.1	29	219	2.4	31	250	1.8	31	248	1.9
500	30	283	2.5	31	162	1.6	--	---	----	29	268	2.1	28	248	3.5	31	154	.9	29	303	2.6	31	272	1.2	--	---	----	31	258	2.3	31	244	3.1
1,000	29	268	3.3	31	156	1.5	31	326	1.6	27	267	4.5	28	252	5.9	30	170	.8	26	261	.4	31	247	3.7	29	211	4.1	31	255	3.6	31	255	4.9
1,500	28	261	5.2	31	170	1.5	31	302	3.6	23	280	6.5	25	265	7.5	29	242	.7	22	150	2.2	31	259	6.0	24	220	7.0	31	262	6.1	31	262	6.8
2,000	26	283	7.0	31	202	1.9	29	299	5.6	22	294	8.1	23	271	7.9	29	304	1.1	22	140	3.0	31	263	7.0	19	235	6.6	31	277	7.6	31	270	8.2
2,500	24	291	9.2	31	210	2.4	28	296	8.1	21	297	9.2	21	281	8.9	28	312	2.6	21	141	2.8	31	267	7.4	19	244	7.7	31	284	8.8	31	262	8.0
3,000	23	294	10.6	31	224	2.8	26	297	10.7	21	299	10.3	19	292	10.8	28	308	3.1	21	149	3.3	31	270	8.3	17	253	10.0	30	292	9.9	31	258	9.1
4,000	23	299	12.6	30	227	3.2	22	299	12.2	20	308	13.5	13	291	11.6	25	297	4.9	17	193	2.7	31	269	9.3	13	257	12.0	30	293	11.9	31	255	10.5
5,000	22	304	14.7	30	239	4.3	21	303	14.0	18	302	13.7	12	294	13.0	23	320	4.4	16	241	1.0	31	271	9.5	13	258	14.4	29	303	13.2	31	253	11.9
6,000	20	305	15.5	28	252	5.9	19	302	15.0	17	304	14.8	11	291	14.7	22	328	2.7	16	235	1.2	31	272	10.3	10	275	14.9	28	299	14.0	31	255	12.9
8,000	10	294	17.8	25	238	9.6	12	293	14.0	13	287	17.3				12	275	9.9	16	313	3.9	30	268	12.0				27	286	18.5	31	255	17.2
10,000				20	247	12.4													15	294	6.3	30	271	15.4				25	277	22.6	28	266	18.7
12,000				16	247	15.3													10	273	13.3	29	274	16.8				25	277	24.7	28	268	21.1
14,000				13	256	15.7																26	272	16.5				25	279	23.8	27	257	18.4
16,000																						19	278	13.0				21	283	19.6	22	268	12.1

1/ Rawin Data (Cont'd.)

18,000 m., 15 obs., 262 dir., 10.5 speed
20,000 m., 11 obs., 250 dir., 9.1 speed

2/ Rawin Data (Cont'd.)

18,000 m., 28 obs., 272 dir., 7.5 speed
20,000 m., 27 obs., 286 dir., 4.4 speed
22,000 m., 26 obs., 294 dir., 3.1 speed
24,000 m., 22 obs., 295 dir., 2.9 speed
26,000 m., 19 obs., 271 dir., 4.0 speed

3/ Rawin Data (Cont'd.)

18,000 m., 16 obs., 283 dir., 10.0 speed
20,000 m., 10 obs., 291 dir., 7.9 speed

4/ Rawin Data (Cont'd.)

18,000 m., 19 obs., 284 dir., 13.5 speed
20,000 m., 18 obs., 278 dir., 8.6 speed
22,000 m., 15 obs., 287 dir., 7.7 speed

5/ Rawin Data (Cont'd.)

18,000 m., 19 obs., 261 dir., 9.3 speed
20,000 m., 17 obs., 275 dir., 5.3 speed
22,000 m., 11 obs., 269 dir., 6.8 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Altitude (meters) m.s.l	Albuquerque, N. Mex. (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Athens, Ga. (246 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	124	2.0	31	47	0.7	29	146	4.3	29	67	0.3	31	50	3.1	31	326	0.3
500	--	---	----	31	60	1.1	29	168	6.6	29	108	.6	31	84	5.1	--	---	----
1,000	--	---	----	31	122	3.2	28	174	8.3	29	254	1.0	30	85	5.1	31	282	3.1
1,500	--	---	----	31	130	4.2	26	185	8.1	29	240	2.6	30	90	4.8	30	293	6.8
2,000	31	222	3.1	31	141	5.2	24	199	8.2	29	246	3.6	30	97	5.2	30	299	8.4
2,500	31	259	4.4	30	158	5.6	22	222	7.5	29	258	4.2	30	105	5.1	29	295	9.3
3,000	31	279	5.1	30	171	6.1	22	224	8.7	28	264	5.7	30	117	4.4	29	300	9.9
4,000	31	293	5.2	30	180	5.4	22	230	11.0	28	277	6.0	29	154	4.5	26	292	12.2
5,000	30	295	6.4	29	190	8.2	16	243	10.2	27	276	8.7	29	165	6.0	25	286	13.4
6,000	28	270	7.4	28	198	8.7	12	263	10.5	26	270	8.9	29	182	7.3	24	286	15.4
8,000	24	252	11.0	27	206	10.0	11	263	18.2	25	264	12.9	26	174	11.0	18	268	18.3
10,000	20	262	13.4	23	215	11.3				25	271	15.5	25	176	11.8	12	266	18.5
12,000	18	261	14.9	21	242	10.0				25	278	18.3	19	201	[illegible].3			
14,000	15	267	11.9	19	242	8.8				24	276	17.0	17	206	8.2			
16,000				10	249	10.2				23	277	11.5	15	222	8.7			
18,000										17	278	6.0	13	228	10.1			
20,000										16	249	2.2	11	237	9.6			
22,000										14	226	1.5						
24,000										11	271	2.5						
26,000																		

Altitude (meters) m.s.l	Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Cold Bay, Alaska (27 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	68	1.3	31	216	1.9	31	33	2.2	31	261	1.0	31	350	0.4	24	302	2.6
500	31	100	3.2	30	237	6.3	31	43	2.1	31	278	2.7	30	169	1.8	19	294	5.3
1,000	31	105	2.9	30	256	8.9	30	57	2.2	31	272	3.8	30	207	1.8	20	29	7.1
1,500	31	94	2.5	30	262	7.9	29	46	2.2	31	272	4.7	31	243	1.7	20	299	6.5
2,000	31	66	2.0	30	264	7.9	28	38	2.3	31	270	6.1	31	261	2.6	22	296	8.3
2,500	31	48	1.7	30	263	8.5	28	351	2.3	31	272	7.6	31	274	3.6	22	298	9.0
3,000	31	39	1.9	31	261	11.2	28	340	3.0	31	268	7.7	31	276	5.1	23	298	10.8
4,000	31	16	2.2	31	256	12.7	26	330	2.2	31	272	10.6	29	276	7.0	22	281	9.9
5,000	31	4	1.8	30	264	11.1	24	359	3.3	31	268	13.4	27	292	7.1	20	265	10.7
6,000	29	355	2.5	30	259	11.0	22	349	3.9	31	274	17.5	25	306	6.8	19	255	12.1
8,000	29	320	5.1	30	270	12.4	21	303	5.9	30	275	22.4	22	295	8.7	17	242	17.2
10,000	27	294	8.3	28	265	15.8	19	301	11.1	27	279	28.9	21	283	10.7	13	246	18.8
12,000	25	295	12.2	23	265	17.9	17	289	16.3	22	275	24.7	19	280	13.1	13	255	20.3
14,000	18	293	11.3	15	278	18.9	16	290	12.1	19	277	20.3	17	283	13.1			
16,000	11	320	5.8				15	307	9.2	15	284	12.3	15	282	9.1			
18,000							15	311	2.9	14	272	5.0	16	275	3.4			
20,000							12	55	4.0	13	273	4.5	14	157	1.2			
22,000							11	116	4.4				11	138	2.1			
24,000							10	82	3.6				11	127	2.5			
26,000													10	231	1.5			

Altitude (meters) m.s.l	Columbia, Mo. (237 m.)			El Paso, Tex. (1,195 m.)			Fairbanks, Alaska (135 m.)			Ft. Huachuca, Ariz. (1,428 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	233	1.2	31	179	0.6	31	322	0.2	30	213	1.3	31	71	1.2	31	245	0.6
500	31	235	3.7	--	---	----	29	106	1.2	--	---	----	--	---	----	31	244	1.4
1,000	31	262	5.7	--	---	----	29	141	1.9	--	---	----	--	---	----	31	268	2.3
1,500	31	278	8.1	31	186	2.6	29	173	3.5	30	221	1.5	31	71	1.1	31	284	3.1
2,000	31	282	8.7	31	217	2.2	28	169	4.7	30	203	1.1	31	262	1.8	31	271	3.7
2,500	31	285	9.8	31	267	3.2	28	174	5.4	30	185	1.2	31	255	3.3	31	261	4.5
3,000	31	289	10.2	31	283	3.2	28	178	6.5	30	164	1.4	31	255	4.3	31	265	5.8
4,000	31	288	12.3	31	294	3.7	30	179	8.5	29	164	.9	31	263	5.8	30	255	7.2
5,000	31	290	13.4	28	291	4.4	29	178	9.4	29	227	3.0	31	279	8.1	29	266	7.7
6,000	31	287	14.8	25	258	3.9	29	182	10.5	28	238	5.1	30	279	9.9	29	270	9.5
8,000	31	293	17.6	24	263	8.0	29	194	11.1	28	252	8.9	25	272	11.5	26	282	13.8
10,000	31	285	22.5	23	268	13.2	28	200	12.5	22	248	13.9	20	272	12.9	24	269	15.2
12,000	30	282	26.5	18	265	17.3	26	223	10.0	19	257	15.6	14	263	11.6	19	280	15.3
14,000	28	282	22.6	16	264	14.9	24	225	9.6	15	248	17.2	12	269	13.5	14	271	14.9
16,000	27	280	18.0	11	282	7.7	16	229	9.9							10	260	9.7
18,000	26	278	8.6	--	---	----	14	238	11.2									
20,000	25	276	4.6	11	26	1.1	12	243	12.5									
22,000	21	273	5.0	11	105	2.7	11	254	10.9									
24,000	17	266	7.2	10	97	3.0												
26,000	10	270	8.2															

Altitude (meters) m.s.l	Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. (871 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	266	0.8	31	275	1.0	31	223	0.6	31	226	0.8	31	54	2.6	31	134	1.3
500	31	265	1.7	31	267	1.9	30	263	1.7	31	256	.9	31	79	4.6	--	---	----
1,000	31	232	1.7	31	293	4.6	30	269	3.4	31	270	2.0	31	86	5.3	30	157	2.2
1,500	30	236	2.5	31	299	5.1	30	285	5.1	31	245	2.5	31	80	3.5	30	181	2.8
2,000	29	255	2.9	31	312	6.4	30	296	5.6	31	243	3.3	31	97	2.4	30	239	2.7
2,500	28	264	3.8	31	311	8.0	30	296	7.6	31	241	5.3	31	158	1.2	30	279	3.6
3,000	29	268	5.2	29	306	9.5	29	302	7.6	30	254	6.1	31	225	.9	31	283	4.6
4,000	28	257	6.7	28	298	11.7	28	306	10.1	29	260	7.9	31	248	2.1	31	295	5.5
5,000	27	269	7.1	28	294	12.5	26	306	11.3	25	267	8.1	31	258	2.8	31	297	5.8
6,000	24	283	8.7	28	297	14.6	24	306	11.9	24	261	8.5	31	263	4.3	31	288	6.8
8,000	21	285	9.4	26	295	19.9	21	289	14.4	20	273	7.3	30	261	6.5	29	274	8.8
10,000	20	277	11.8	26	288	22.7	16	283	15.6	17	272	8.0	29	263	11.1	28	273	12.7
12,000	18	292	15.4	25	288	23.8	16	288	20.1	15	277	6.9	27	267	12.7	27	270	16.1
14,000	17	290	12.4	22	276	19.1	16	290	18.9	13	271	7.9	24	273	11.6	26	275	15.5
16,000	15	288	8.6	21	278	15.2	14	294	12.3	13	270	7.8	21	298	3.8	24	265	10.4
18,000	15	282	4.4	18	283	10.3	12	296	7.2	11	287	5.1	18	59	4.1	20	277	2.9
20,000	13	2	1.3	16	270	6.9	11	276	5.1	11	312	4.0	17	86	5.6	17	132	.6
22,000	11	127	2.0	12	276	6.9				11	309	4.5	16	97	9.0	15	143	1.0
24,000	10	276	.8										15	92	10.8	14	126	.9
26,000													10	78	10.9	10	108	.9

Altitude (meters) m.s.l	Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)			Oakland, Calif. (8 m.)			Oklahoma, City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	139	1.5	31	187	1.0	30	29	1.9	31	289	1.6	31	142	1.7	31	312	1.3
500	25	288	4.9	29	233	3.1	29	17	1.0	31	312	3.0	29	171	2.2	--	---	----
1,000	25	292	5.5	29	247	4.2	29	310	.8	31	303	2.0	28	227	3.8	31	305	1.5
1,500	26	280	6.2	30	264	4.8	30	311	1.2	31	278	1.4	26	267	4.3	31	292	4.6
2,000	26	278	7.5	30	280	6.1	30	283	1.8	31	278	1.6	28	290	6.4	31	294	7.0
2,500	28	266	9.5	30	287	7.0	30	297	1.9	31	284	1.6	30	291	7.3	31	296	8.5
3,000	28	266	11.0	30	285	7.7	30	308	1.1	31	249	1.6	30	289	8.6	31	299	10.3
4,000	25	270	10.9	29	289	9.2	29	245	2.0	30	255	2.6	30	288	9.6	31	299	12.9
5,000	22	270	11.0	29	286	10.6	29	254	2.5	30	281	3.9	28	273	11.1	27	298	13.4
6,000	17	269	11.6	27	285	12.5	29	230	4.0	30	281	5.4	26	271	12.8	26	297	16.0
8,000	18	270	13.5	26	282	15.7	27	266	5.1	29	282	7.4	21	274	12.9	25	287	19.6
10,000	16	273	16.6	21	285	16.5	24	260	7.2	29	276	10.4	20	276	18.7	24	294	20.1
12,000				21	282	19.7	23	248	7.6	29	275	9.7	15	273	22.7	18	281	21.0
14,000				19	286	17.7	21	252	7.4	29	271	9.6	13	283	22.3	14	285	17.8
16,000				17	286	11.9	16	261	8.6	29	267	9.6	11	298	13.1			
18,000				14	283	5.9	11	252	8.6	29	277	6.6	--	---	----			
20,000				14	263	4.2	10	255	6.6	26	315	4.3	11	27	.4			
22,000				13	286	1.7				24	326	2.7	11	219	1.7			
24,000				12	295	1.8				19	336	2.0	10	277	3.2			

Altitude (meters) m.s.l	St. Cloud, Minn. (318 m.)			St. Paul, Is. Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	308	0.9	23	315	4.1	31	136	1.0	31	118	1.5	31	310	1.1	31	181	0.3
500	31	277	1.7	20	317	4.3	31	132	3.9	29	98	6.0	31	3	3.5	31	244	1.5
1,000	30	279	4.7	20	303	5.3	31	155	2.8	29	98	5.7	31	12	4.4	31	259	4.3
1,500	30	292	5.8	18	300	6.9	31	170	.7	30	90	5.3	31	27	3.8	31	273	5.5
2,000	30	306	5.6	20	303	7.6	31	5	.5	31	92	4.5	31	36	2.6	31	277	5.4
2,500	31	305	7.8	20	307	8.3	31	311	1.6	31	99	3.9	31	65	1.6	31	267	6.0
3,000	31	303	8.7	20	303	9.8	31	321	2.5	30	101	4.0	31	96	1.5	31	274	7.6
4,000	31	301	10.0	21	293	10.8	31	299	4.4	30	105	3.2	31	243	.6	31	275	9.8
5,000	31	297	12.2	19	288	11.5	31	299	5.1	30	101	2.9	31	273	1.7	31	269	10.4
6,000	31	293	13.8	17	288	13.2	30	293	4.7	31	136	2.7	31	259	3.0	31	277	11.4
8,000	26	278	12.6	15	278	17.7	28	289	7.2	31	197	2.4	31	275	4.7	29	281	16.8
10,000	20	276	15.8	11	270	20.5	26	288	12.6	31	231	3.8	28	276	8.1	27	277	21.5
12,000	17	273	13.4				26	281	19.8	31	255	7.3	27	267	9.9	22	271	18.5
14,000	15	271	14.3				21	280	14.2	29	270	8.6	27	262	10.2	14	279	18.1
16,000	13	269	11.5				18	283	7.7	23	261	4.3	26	261	8.7			
18,000	14	269	8.5				15	291	2.6	15	45	1.0	22	275	6.1			
20,000	15	270	6.0				12	63	6.2	15	88	6.4	21	316	3.4			
22,000	14	330	2.9				11	97	8.6	14	99	8.1	17	36	2.2			
24,000	13	237	4.5							13	86	14.3	12	350	1.5			

Altitude (meters) m.s.l	Spokane, Wash. (726 m.)			Tatoosh Is. Wash. (31 m.)			Topeka, Kans. (269 m.)			Washington, D. C. (88 m.)			Yakutat, Alaska (12 m.)			Yuma, Ariz. (105 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	183	1.3	31	173	2.3	31	209	1.6	31	216	1.5	28	104	3.5	30	175	1.3
500	--	---	----	27	216	5.0	31	234	3.9	31	249	5.1	27	128	5.6	30	271	2.0
1,000	30	212	4.7	27	237	6.2	31	249	5.9	30	267	6.1	26	142	5.3	30	120	.0
1,500	29	230	6.9	28	246	7.9	31	271	7.7	30	267	5.6	25	149	5.7	30	145	1.1
2,000	28	245	8.4	28	252	[illegible].8	31	286	7.6	30	271	5.7	23	180	3.9	30	162	1.8
2,500	28	256	9.5	31	254	10.7	31	295	8.6	29	274	6.6	23	191	4.1	30	162	3.3
3,000	29	259	10.1	31	253	12.4	31	306	10.1	29	279	8.1	23	197	5.0	30	171	4.1
4,000	28	264	13.2	31	256	15.1	31	303	12.6	28	269	9.3	23	203	6.2	30	184	4.2
5,000	26	271	14.5	31	254	18.5	30	303	14.5	27	272	10.6	23	218	6.7	30	209	5.1
6,000	26	274	16.5	31	263	21.0	30	299	15.7	27	263	11.8	23	217	8.0	30	224	5.9
8,000	25	277	19.5	30	270	28.0	28	282	17.4	27	260	15.9	21	228	9.0	30	230	9.2
10,000	19	282	22.1	27	274	27.8	28	284	23.0	26	258	20.3	20	244	12.3	29	238	13.5
12,000	19	283	23.2	22	267	27.1	27	281	27.2	25	264	19.6	20	257	13.0	26	246	18.9
14,000	19	277	19.8	19	263	23.8	26	280	24.9	25	268	19.0	17	257	13.9	22	260	16.4
16,000	19	279	17.8	17	264	17.3	22	276	20.5	22	273	12.7	14	248	12.2			
18,000	19	276	11.6	17	272	11.8	15	281	11.3	18	274	8.3	10	248	13.1			
20,000	21	278	6.6	16	271	7.1				17	267	5.8						
22,000	19	305	4.8	14	277	[illegible].1				16	254	5.8						
24,000	19	321	4.4							14	254	9.9						
26,000	18	308	6.0							11	267	13.1						

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°,E = 90°,S = 180°,W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for June 1955

Altitude (meters) m.s.l.	Denver, Colo. (1,661 m.)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul, Ill. (227 m.)			Rome, N. Y. (146 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	87	2.1	30	169	1.4	30	91	1.6	30	320	0.2	29	66	0.3
500	--	---	----	30	159	6.1	--	---	----	28	201	.8	30	308	1.5
1,000	--	---	----	30	171	6.5	--	---	----	28	208	.8	30	320	2.3
1,500	--	---	----	30	189	4.9	30	100	1.8	28	232	.6	30	328	2.9
2,000	30	86	2.3	30	209	3.1	30	182	1.8	28	282	1.3	30	324	3.3
2,500	30	58	.4	30	247	2.4	30	221	2.5	28	294	2.8	30	328	2.9
3,000	30	276	2.0	30	280	4.0	30	252	4.0	28	313	3.1	30	347	3.0
4,000	29	271	5.2	30	300	6.4	30	260	6.8	30	323	3.9	30	340	3.7
5,000	27	281	8.0	30	313	8.3	29	263	7.6	30	316	5.3	30	325	4.8
6,000	23	286	9.3	30	307	9.0	29	268	8.3	30	307	6.2	30	330	5.5
8,000	21	293	11.5	30	285	13.9	29	278	9.4	30	300	9.1	30	319	5.3
10,000	20	293	10.7	30	280	19.1	29	287	11.2	30	290	11.0	30	301	9.5
12,000	19	286	10.2	30	282	23.9	29	280	13.0	30	289	14.9	30	296	10.0
14,000	18	294	7.5	30	279	21.0	29	272	11.1	30	300	12.0	30	301	7.6
16,000	16	315	5.4	25	282	8.3	28	259	4.1	30	306	7.6	30	298	4.3
18,000	14	36	1.5	19	227	1.0	21	125	.6	30	327	2.5	30	337	1.2
20,000	14	64	3.5	18	79	4.0	18	82	3.8	28	49	2.3	29	54	2.1
22,000	13	73	6.7	16	94	8.5	14	85	7.5	26	76	4.7	28	80	4.4
24,000				14	94	11.7				22	84	7.4	22	88	7.5
26,000				11	99	12.7				15	83	8.7	20	97	8.3
28,000													11	94	7.4

* July data for the above Air Force stations will be included in the November issue of this publication.

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. OCTOBER 195

Date	Sun's zenith distance								
	A.M.				0.0°	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

ALBUQUERQUE, N. MEX.

	Air mass								
	5.0	4.0	3.0	2.0	NOON	2.0	3.0	4.0	5.0
Oct.									
1	0.80	0.90	1.02	1.16	----	----	----	----	----
2	----	----	----	1.09	----	----	----	----	----
3					Cloudy				
4					Cloudy				
5	.82	.93	----	----	----	----	----	----	----
6	.94	1.04	1.16	1.22	1.38	1.14	1.01	0.90	0.76
7	.95	1.05	1.15	1.28	1.39	1.26	1.15	1.08	.97
8					Cloudy				
9	----	----	----	----	1.29	1.17	1.03	.94	.83
10	.81	.93	1.01	1.14	1.28	1.20	1.02	.93	.82
11	.71	.89	1.01	1.17	1.27	1.16	1.03	.93	.83
12	.88	.99	1.09	1.19	1.31	1.23	1.03	1.01	.87
13	.87K	.95K	1.06K	1.21K	1.30	1.21	1.06	.98	.84
14	.73	.86	.95	1.13	1.27	1.19	----	----	----
15	.82	.95	1.03	1.16	1.33	1.25	1.09	1.01	.89
16					Cloudy				
17	.77	.91	1.01	1.15	1.29	1.20	1.05	.97	.86
18	.79	.89	1.01	1.15	1.27	1.14	.96	.85	.71
19					Cloudy				
20					Cloudy				
21					Cloudy				
22					Cloudy				
23	.91	1.02	1.13	1.27	1.31	----	----	----	----
24	.89	1.02	1.11	1.26	1.35K	1.24	1.08	.97	.85
25	.85	.97	1.10	1.23	1.37	1.27	1.18	1.05	.94
26	.82	.95	1.07	----	----	----	----	----	----
27	----	----	----	1.21	1.12D	.72D	.69D	.60D	.35D
28	.98	1.08	1.17	1.34	----	1.29	1.18	1.06	.96
29	.96	1.06	1.19	1.31	----	----	----	----	----
30	.97	1.05	1.19	1.31	1.35	1.29	1.18	1.06	.98
31	.98	1.06	1.20	1.30	1.35	1.15D	1.03D	----	----
Averages	.86	.98	1.09	1.21	1.31	1.18	1.05	.96	.83

TABLE MOUNTAIN, CALIF.

	Air mass								
	3.76	3.01	2.26	1.51	NOON	1.51	2.26	3.01	3.76
Oct.									
1	----	----	----	1.49	----	----	----	----	----
2	----	----	----	1.44	----	----	----	----	----
3	----	----	----	1.47	----	----	----	----	----
4	----	----	----	1.45	----	----	----	----	----
5	----	----	----	1.43	----	----	----	----	----
6	----	----	----	1.46	----	----	----	----	----
7		----	----	1.46	----	----	----	----	----
8	----	----	----	1.41	----	----	----	----	----
9	----	----	----	1.43	----	----	----	----	----
11	1.12	1.21	1.32	1.45	----	----	----	----	----
12	----	----	----	1.47	----	----	----	----	----
13	1.14	1.23	1.33	1.47	----	----	----	----	----
14	1.07	1.15	1.27	1.38	----	----	----	----	----
16	----	----	----	1.46	----	----	----	----	----
22	----	----	----	1.41	----	----	----	----	----
24	----	----	----	1.43	----	----	----	----	----
25	----	----	----	1.38	----	----	----	----	----
28	1.18	1.27	1.37	1.50	----	----	----	----	----
29	----	----	----	1.50	----	----	----	----	----
30	----	----		1.53	----	----	----	----	----
31	----	----	----	1.51	----	----	----	----	----
Averages	1.13	1.22	1.32	1.45	----	----	----	----	----

Date	Sun's zenith distance								
	A.M.				0.0°	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

MADISON, WIS.

	Air mass								
	4.81	3.84	2.88	1.92	*0.96	1.92	2.88	3.84	4.81
Oct.									
1	0.86	1.00	1.13	1.28	----	1.15	----	----	----
8	.97	1.08	1.20	1.32	----	1.34	1.18	1.07	0.94
10	.82	.90	1.06	1.23	----	1.17	1.02	.87	.78
11	----*	1.06	1.17	1.30	----	1.21	1.04	.92	----
13	1.04	1.12	1.22	1.37	----	1.31	----	----	----
19	----	----	----	----	----	----	.90	.60	.38
21	----	----	----	----	----	1.38	1.26	1.13	1.05
24	----	----	----	1.41	----	1.38	1.21	1.08	----
26	----	----	----	----	----	1.15	.92	----	----
27	.92	1.04	1.16	----	----	----	----	----	----
Averages	.92	1.03	1.16	1.32	----	1.26	1.08	.95	.79

BLUE HILL, MASS.

	Air mass								
	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
Oct.									
2	----	0.93	1.08	1.28	----	1.23	1.05	0.84	0.68
3	0.95	1.05	1.15	1.28	----	1.14	.87	.77	.68
4	.80	.88	.98	1.09	----	----	----	----	----
9	.94	1.04	1.15	1.25	----	1.28	1.16	1.04	.95
10	.70	.81	.98	1.18	----	----	----	----	----
11	.79	.91	1.04	1.13	----	1.18	1.01	.87	.75
20	.85	.95	1.07	1.20	----	1.17	1.00	.88	.77
22	----	----	1.23	1.38	----	----	----	1.08	.97
27	----	----	----	----	----	1.31	1.13	.97	.89
28	----	1.03	1.15	1.30	----	1.26	----	----	----
Averages	.84	.94	1.09	1.23	----	1.22	1.04	.92	.81

WASHINGTON, D. C. (WBCO)

	Air mass								
	4.95	3.96	2.97	1.98	NOON	1.98	2.97	3.96	4.95
Oct.									
10	0.88S	0.99S	1.08S	1.27S	1.40S	1.28S	1.12S	----	----
11	.83S	.93S	1.04S	1.23SK	1.34SK	1.26SK	1.11S	1.01S	0.89
12	----	.87K	1.06SK	1.18SK	1.28S	1.18SK	1.04SK	.91S	.81
13	.69SK	.80SK	.91SK	1.17SK	----	----	----	----	----
17	----	----	----	.98SK	----	----	----	----	----
19	----	----	----	.87S	----	----	----	----	----
20	.79S	.91S	1.04S	1.20S	1.24S	1.14S	1.03S	.89S	.80
25	.74S	.92S	1.05S	----	----	----	----	----	----
26	----	----	----	----	1.28S	1.18S	.98S	.86S	.71
27	----	----	----	1.30S	1.39S	----	1.09S	.93S	----
Averages	.79	.90	1.03	1.15	1.32	1.21	1.06	.92	.80

K Smoke
D Dust
S Slight milkiness to sky
* Extrapolated

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in Monthly Weather Review, Volume 75, No. 3, Marc 1947, p. 47.

SOLAR RADIATION DATA

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	70	69	70	70	80	26	36	60	26	66	66	62	71	34	11	49	13	15	60	63	46	62	62	46
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	65	64	45	67	32	76	76	61	85	67	65	26	44	25	11	46								

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	----	---	--	-	- -	26	33	-	25	233	221	226	188	30	16	134	11	16	59	183	53	215	102	91
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	238	222	84	197	24	125	194	155	191	45	58	35	150	21	13	71								

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	85	508	506	449	148	36	49	255	15	454	488	488	408	33	26	273	---	---	--	384	72	532	---	(329)
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	598	319	---	- -	---	--	531	(141)	418	40	- -	-	-	---	----	-								

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	---	---	---	---	---	34	66	(62)	33	368	316	321	309	40	21	201	15	19	30	180	65	292	129	119
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	320	264	63	241	46	306	271	216	227	50	103	35	51	19	11	71								

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	1	2	3	4	5	6	7		8	9	10	11	12	13	14		15	16	17	18	19	20	21	
Langleys	144	72	63	95	182	50	71	97	42	52	54	67	110	61	24	58	21	33	121	117	92	70	132	84
Date	22	23	24	25	26	27	28		29	30	31	1	2	3	4									
Langleys	49	68	84	92	45	101	46	69	100	86	89	55	88	42	21	69								

Note: Langley is the unit used to denote one gram calorie per square centimeter.

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	*7	*35	191	158	149	210	218	*-47	187	157	153	156	*85	*-1	96	*66	148	57	68	130	125	121	113	101	90	50	103	115	*114	*76	70	106

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

* Estimated values owing to occurrence of rain during period. While rain is falling, radiation is assumed to be zero.

These data are of an experimental nature and are published as received from the North Carolina State College at Raleigh. The instrument with which they were measured has not been checked by the Weather Bureau.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

OCTOBER 1955

	Albrook Air Base Panama, C. Z.	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Caribou, Me.
1955															
Oct. 1-----	269	477	115	334	354	221	76	199	437	143	462	141	302	600	306
Oct. 2-----	366	536	68	545	206	73	141	123	317	450	453	418	423	---	442
Oct. 3-----	---	---	48	(381)	126	295	65	117	425	439	420	398	490	570	360
Oct. 4-----	343	494	199	535	93	269	38	143	159	410	221	340	541	624	141
Oct. 5-----	279	486	43	547	393	113	108	219	346	213	330	209	558	679	---
Oct. 6-----	625	588	92	314	275	290	45	117	234	60	445	31	556	702	412
Oct. 7-----	434	582	185	427	70	307	35	148	416	78	406	73	428	678	47
Averages-----	386	527	107	(441)	217	224	72	152	334	256	391	230	471	642	285
Oct. 8-----	245	453	46	(163)	33	373	82	87	370	50	246	46	564	681	47
Oct. 9-----	334	516	149	407	48	514	---	92	381	419	317	379	407	666	390
Oct. 10-----	491	525	116	546	189	---	43	167	385	393	28	428	141	660	313
Oct. 11-----	471	527	32	530	49	---	52	196	274	383	405	428	288	633	403
Oct. 12-----	485	523	62	(528)	84	392	47	169	383	347	303	335	462	681	---
Oct. 13-----	268	520	40	493	349	265	54	201	376	67	383	66	424	682	326
Oct. 14-----	199	505	115	556	112	414	(104)	62	372	26	378	12	553	612	286
Averages-----	356	510	80	(461)	123	391	(64)	139	363	241	294	242	405	659	294
Oct. 15-----	232	511	89	555	352	356	60	151	342	23	379	9	552	687	328
Oct. 16-----	397	485	148	509	332	338	63	---	364	30	380	35	338	673	213
Oct. 17-----	310	497	150	316	249	467	49	---	349	152	371	167	469	658	99
Oct. 18-----	450	483	215	(458)	49	---	38	196	344	298	191	362	550	690	115
Oct. 19-----	473	461	25	535	106	456	35	185	217	103	239	130	541	700	---
Oct. 20-----	451	464	8	531	170	452	27	99	292	362	326	380	543	700	282
Oct. 21-----	359	369	214	509	215	431	36	28	298	224	339	203	482	680	89
Averages-----	382	467	121	(488)	210	417	44	132	315	170	318	184	496	684	188
Oct. 22-----	520	396	84	499	313	409	31	89	270	377	278	391	---	683	219
Oct. 23-----	471	482	11	483	285	275	21	36	344	350	365	380	522	690	267
Oct. 24-----	331	477	79	(389)	51	334	24	95	279	105	349	149	500	675	145
Oct. 25-----	477	478	48	504	42	437	46	46	288	338	349	229	521	666	123
Oct. 26-----	535	458	199	(497)	193	445	23	66	319	48	152	24	512	694	154
Oct. 27-----	514	442	67	491	40	428	23	101	111	288	291	240	459	621	184
Oct. 28-----	331	469	79	373	144	396	33	---	297	325	157	248	488	655	305
Averages-----	454	457	81	(462)	153	389	29	72	273	262	277	237	501	669	200
Oct. 29-----	441	464	56	435	73	357	12	71	298	267	98	260	468	---	225
Oct. 30-----	414	455	39	503	185	394	34	71	(190)	115	107	70	355	---	145
Oct. 31-----	415	(449)	197	504	52	440	15	120	202	138	172	98	307	683	86
Nov. 1-----	218	450	257	491	190	403	9	106	161	61	158	56	469	678	65
Nov. 2-----	472	(451)	92	468	19	399	13	111	(195)	120	218	92	264	676	45
Nov. 3-----	425	435	193	280	42	400	25	110	139	44	278	54	57	679	46
Nov. 4-----	391	416	182	496	118	407	9	(104)	213	22	77	7	402	660	59
Averages-----	396	(446)	145	454	97	400	17	(99)	(200)	110	158	91	332	675	96

	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Columbus, Ohio	Davis, Calif.	Dodge City, Kans.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grandby, Colo.	Grand Junction, Colo.
1955																		
Oct. 1-----	332	484	483	412	438	362	481	123	281	453	435	138	260	500	504	303	569	541
Oct. 2-----	280	496	201	438	438	168	319	499	112	(258)	(519)	---	485	503	437	407	473	435
Oct. 3-----	209	495	295	412	405	134	392	491	239	129	506	136	359	483	234	393	536	529
Oct. 4-----	440	369	33	294	437	403	295	471	182	210	490	80	463	487	266	291	493	322
Oct. 5-----	437	66	88	47	442	510	41	272	295	569	508	138	(464)	475	459	317	402	519
Oct. 6-----	393	165	202	101	410	289	263	116	279	(575)	504	24	327	450	474	406	471	524
Oct. 7-----	430	110	434	64	408	544	87	111	105	519	502	60	559	473	613	393	530	515
Averages-----	360	312	248	252	425	344	269	297	213	(388)	(495)	96	(417)	482	427	359	496	483
Oct. 8-----	344	265	472	304	417	527	388	141	257	487	491	93	501	462	396	248	532	513
Oct. 9-----	355	486	457	427	414	507	357	466	322	542	483	98	536	457	264	349	536	491
Oct. 10-----	506	495	453	402	135	526	407	432	195	550	---	84	446	440	379	364	507	452
Oct. 11-----	495	469	329	389	361	492	413	425	292	545	461	41	304	268	475	202	397	468
Oct. 12-----	448	428	252	349	335	506	108	393	305	521	461	102	468	437	387	381	505	467
Oct. 13-----	293	256	441	323	322	503	410	123	275	521	459	92	519	436	488	370	497	474
Oct. 14-----	405	339	354	329	319	514	389	115	144	529	451	79	(514)	418	435	352	492	453
Averages-----	407	391	394	361	329	511	353	299	256	528	468	84	(470)	417	403	324	495	474
Oct. 15-----	457	194	439	339	310	484	277	69	259	519	309	---	(489)	413	501	290	476	452
Oct. 16-----	490	53	325	242	289	488	45	83	146	512	439	31	(489)	402	488	635	477	448
Oct. 17-----	368	46	197	31	210	484	78	262	179	499	434	94	506	343	76	338	468	440
Oct. 18-----	455	103	422	184	252	465	172	371	82	499	210	88	506	339	489	323	463	432
Oct. 19-----	477	93	405	114	177	472	139	210	138	499	246	---	478	318	486	194	405	330
Oct. 20-----	467	418	378	360	252	433	331	393	241	467	---	61	474	392	429	---	323	296
Oct. 21-----	473	49	365	194	272	430	267	257	---	406	333	118	473	389	494	---	406	309
Averages-----	455	137	361	209	252	465	187	235	176	486	328	78	(488)	371	423	356	431	387
Oct. 22-----	416	434	322	348	243	414	368	416	188	430	315	50	427	412	419	---	423	295
Oct. 23-----	283	336	240	291	260	269	247	380	228	423	431	85	437	410	340	---	338	414
Oct. 24-----	317	101	396	159	275	474	150	293	163	480	432	27	497	405	395	---	400	433
Oct. 25-----	474	250	373	289	261	487	212	353	109	481	408	45	(484)	398	412	---	437	423
Oct. 26-----	454	380	382	316	267	453	339	112	215	465	258	51	478	351	428	268	397	267
Oct. 27-----	431	356	336	313	279	426	334	364	161	485	409	55	409	408	435	211	146	236
Oct. 28-----	424	257	78	319	264	451	262	343	193	488	377	114	442	396	298	165	115	199
Averages-----	400	302	304	291	264	425	273	323	180	464	376	61	(453)	397	389	---	322	324
Oct. 29-----	---	214	317	109	268	337	59	299	118	478	359	29	308	377	252	289	358	388
Oct. 30-----	441	173	278	235	260	433	182	174	37	472	371	35	450	376	447	91	274	374
Oct. 31-----	451	73	350	87	280	414	83	253	91	471	384	92	421	384	430	151	162	332
Nov. 1-----	460	321	179	245	252	425	106	96	139	425	384	91	344	362	355	162	---	172
Nov. 2-----	411	52	68	39	259	415	35	88	179	459	375	77	410	363	422	267	---	386
Nov. 3-----	204	49	368	41	242	415	89	116	104	435	363	64	452	342	437	151	---	374
Nov. 4-----	(426)	27	338	128	164	417	89	63	135	422	316	89	409	332	418	162	---	363
Averages-----	(399)	130	271	126	246	408	92	155	115	452	365	68	399	363	394	274	---	341

Note.--Langley is the unit used to denote one gram calorie per square centimeter.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued OCTOBER 1955

1955	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Prosser 4 NE, Wash.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.
Oct. 1-----	340	79	265	543	439	612	380	458	526	546	464	572	453	511	540	422	---	(425)	460	450	468	107	160	466	---	422	569	273	445	487	385	559	358
Oct. 2-----	402	128	83	---	433	610	465	489	510	544	395	531	288	379	477	427	---	418	526	234	436	465	463	365	---	---	554	466	390	177	362	543	383
Oct. 3-----	---	268	340	591	361	594	451	462	509	522	396	458	280	292	477	231	---	263	309	---	368	448	453	462	---	(427)	435	445	157	460	130	523	144
Oct. 4-----	227	233	286	---	285	576	412	427	470	523	115	329	175	371	355	305	---	182	521	---	195	432	354	277	---	101	502	367	112	459	98	476	132
Oct. 5-----	149	179	160	604	33	572	319	434	511	512	70	260	287	408	350	83	---	410	426	---	300	297	260	285	---	376	557	399	445	308	395	328	95
Oct. 6-----	411	160	312	562	125	587	75	435	512	534	194	193	358	487	481	249	---	384	463	539	214	65	18	86	---	35	571	34	404	363	366	539	195
Oct. 7-----	332	241	424	574	117	584	339	422	463	523	178	103	456	504	490	142	---	248	525	558	99	110	175	121	355	91	565	43	242	459	209	532	254
Averages-----	310	184	267	575	256	591	349	447	500	529	259	349	328	422	453	266	---	(371)	461	445	297	275	269	294	---	(264)	536	290	314	388	278	500	223
Oct. 8-----	170	84	144	453	424	567	204	565	465	509	454	567	475	425	439	405	---	331	428	468	495	79	61	533	513	276	521	90	97	463	78	506	366
Oct. 9-----	188	342	548	315	422	545	439	528	475	485	437	570	470	305	(395)	370	---	93	328	558	490	431	448	529	---	367	503	418	117	418	109	460	330
Oct. 10-----	247	346	542	550	421	558	418	499	472	488	441	560	419	130	184	360	---	204	513	548	470	399	397	478	502	379	525	395	276	449	261	249	311
Oct. 11-----	378	325	530	543	394	539	407	504	472	481	420	543	384	365	372	370	---	190	89	517	458	398	378	465	344	368	524	363	94	177	82	458	319
Oct. 12-----	379	331	517	(543)	113	533	350	452	462	479	250	455	249	194	386	242	---	370	120	508	320	368	327	463	375	222	529	343	380	428	352	481	346
Oct. 13-----	375	301	388	166	394	528	278	353	457	472	424	504	447	115	281	370	---	359	506	518	460	120	112	99	487	173	522	232	359	432	345	385	278
Oct. 14-----	365	87	449	468	334	497	86	542	458	469	328	348	435	223	296	182	---	263	491	502	373	45	14	304	490	89	504	105	366	427	326	163	336
Averages-----	300	259	445	(434)	357	538	312	492	466	484	393	507	411	251	(336)	328	---	259	353	517	438	263	248	410	452	268	518	278	241	399	222	386	327
Oct. 15-----	337	270	471	504	216	501	30	511	441	379	117	368	424	102	108	83	---	268	569	498	228	39	38	286	467	79	489	92	359	463	334	168	333
Oct. 16-----	321	209	395	(486)	249	511	33	517	442	455	281	323	410	234	255	182	---	272	562	494	314	33	42	309	461	330	(507)	71	357	414	321	287	258
Oct. 17-----	344	300	371	---	44	502	122	526	433	440	200	86	413	106	118	167	97	336	460	490	156	313	252	283	481	66	502	22	348	391	314	309	329
Oct. 18-----	266	179	512	---	161	223	119	540	412	240	186	124	419	266	241	132	35	237	242	460	80	330	197	118	464	139	484	302	174	408	134	267	322
Oct. 19-----	193	238	250	480	249	481	154	509	265	289	379	240	388	433	284	310	43	---	545	463	364	132	142	266	438	171	460	192	322	313	280	299	279
Oct. 20-----	249	350	494	490	355	478	275	496	395	369	332	489	373	99	99	232	115	297	479	460	392	364	331	387	431	165	477	325	335	178	302	191	164
Oct. 21-----	303	400	489	495	288	411	20	483	284	423	369	343	350	166	81	350	86	230	441	463	378	297	270	410	402	123	408	62	302	232	277	120	315
Averages-----	287	278	426	(491)	223	444	107	512	382	371	266	282	397	201	170	208	75	273	471	476	273	216	182	294	449	153	(475)	152	314	343	280	234	286
Oct. 22-----	87	420	459	(452)	343	472	239	495	301	430	367	294	329	390	286	281	65	280	361	461	351	388	397	379	398	351	469	320	340	246	308	332	65
Oct. 23-----	348	330	301	485	304	---	315	435	440	445	237	437	382	379	402	66	70	284	288	434	361	358	335	389	368	127	491	234	320	392	284	438	116
Oct. 24-----	153	---	370	453	272	498	129	445	421	409	350	292	394	297	396	347	42	332	455	502	353	241	250	297	461	77	415	215	139	356	61	449	294
Oct. 25-----	308	400	487	497	332	481	158	506	417	411	307	479	379	228	354	290	43	140	478	---	387	353	253	440	452	(208)	435	290	85	350	55	413	268
Oct. 26-----	43	376	485	461	343	471	232	471	325	394	321	460	366	99	221	303	41	191	478	445	384	123	228	434	442	(70)	475	54	250	311	193	205	---
Oct. 27-----	295	361	485	454	329	478	345	342	308	433	326	451	340	389	370	318	90	213	425	389	367	340	338	390	369	305	466	266	94	134	70	440	---
Oct. 28-----	195	317	472	465	114	477	306	299	226	419	114	324	97	423	419	90	54	261	418	463	226	328	236	327	398	267	473	312	227	248	215	447	---
Averages-----	204	367	437	(467)	291	480	246	428	348	420	285	391	327	315	350	242	58	243	415	449	347	304	291	379	412	(201)	461	241	208	291	169	389	186
Oct. 29-----	161	171	444	200	36	467	186	480	355	408	35	73	347	395	400	36	153	268	317	462	40	250	177	281	345	260	468	287	145	268	148	439	---
Oct. 30-----	105	332	433	267	236	469	63	489	324	417	49	440	386	400	402	57	113	241	373	454	298	110	37	352	432	89	464	181	219	304	221	438	---
Oct. 31-----	162	362	476	453	316	471	277	402	278	401	162	427	350	315	338	118	103	167	458	440	---	295	319	423	405	271	453	15	222	222	232	412	---
Nov. 1-----	111	360	458	(449)	60	451	300	277	247	315	111	334	94	352	327	195	104	259	460	438	292	159	318	390	392	272	453	54	218	271	---	317	274
Nov. 2-----	211	353	427	444	23	443	167	364	399	399	55	93	168	357	357	42	136	290	470	400	296	164	246	360	365	82	449	74	78	313	---	402	184
Nov. 3-----	140	138	472	367	200	450	69	482	271	399	212	93	364	378	374	123	91	149	381	441	276	109	123	200	410	69	437	44	83	295	---	426	261
Nov. 4-----	108	351	493	408	328	440	112	468	243	391	338	413	341	---	361	257	125	232	464	344	378	25	66	380	390	244	419	26	139	248	---	405	165
Averages-----	143	295	458	(370)	171	456	168	423	303	390	137	268	293	366	366	118	118	229	418	425	263	159	184	341	391	184	449	97	158	274	---	406	221

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

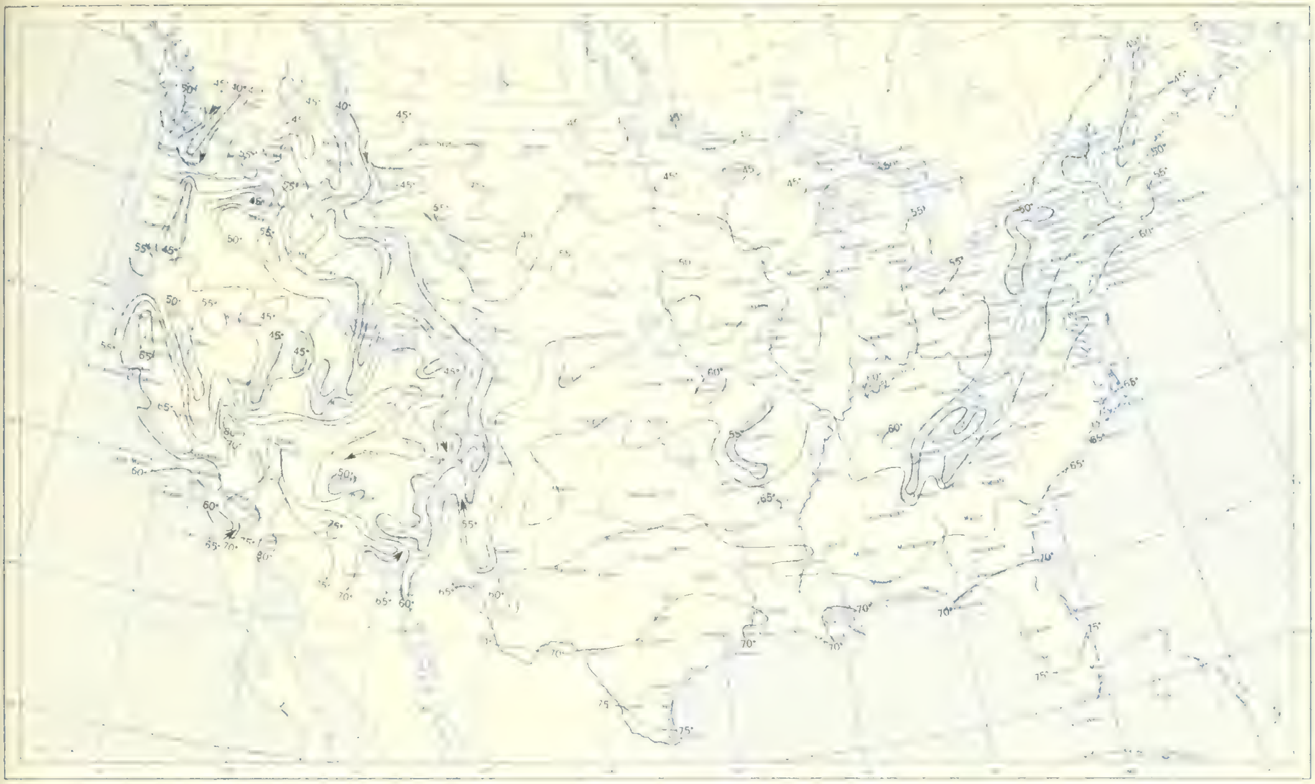
SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued OCTOBER 1955

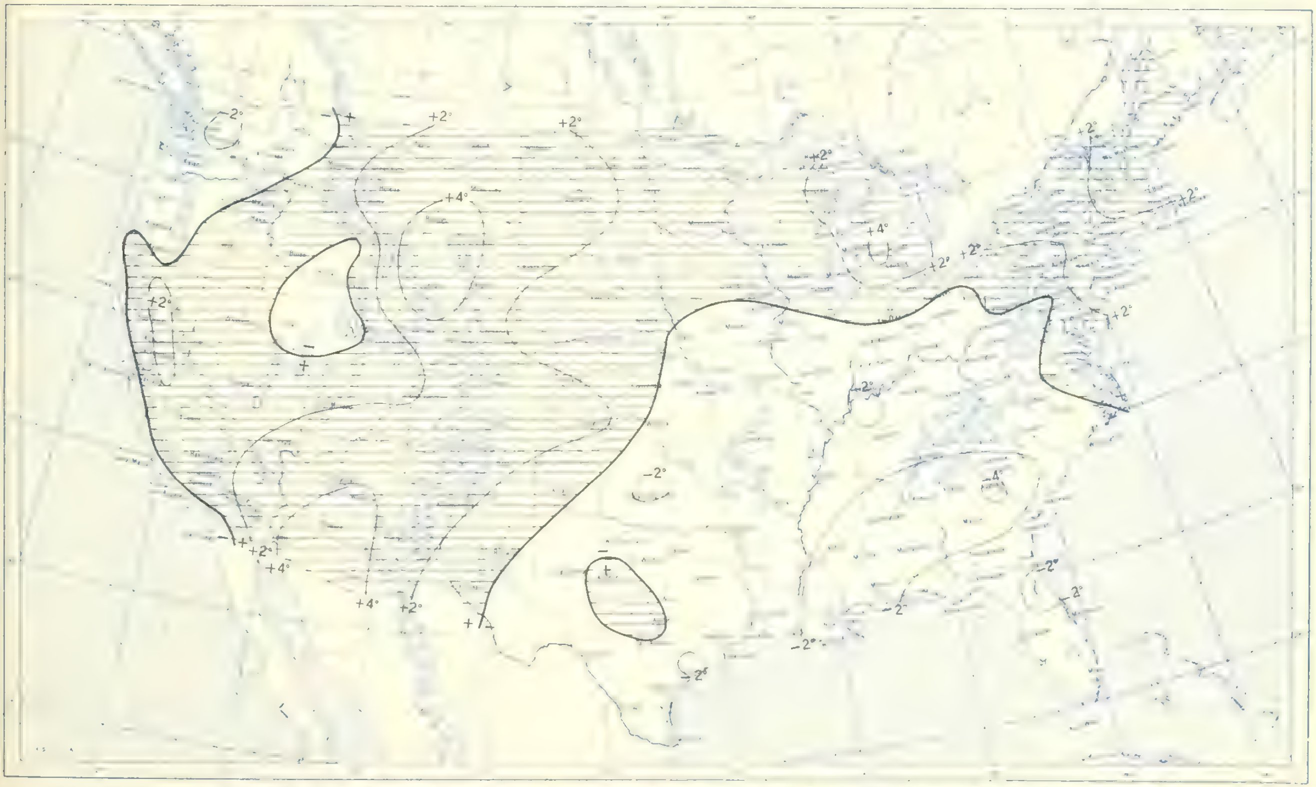
1955	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Toronto, Ontario	Tucson, Ariz.	Upton, N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
Oct. 1-----	367	498	363	136	365	168	255	293	363	325	171	560	473	509	179	500	187	301
Oct. 2-----	354	499	350	500	389	324	154	197	346	403	43	396	357	479	---	534	368	383
Oct. 3-----	395	231	204	508	385	435	115	128	175	410	87	307	384	485	512	650	429	115
Oct. 4-----	435	529	218	460	339	355	115	129	126	363	149	489	276	440	465	457	391	179
Oct. 5-----	504	551	42	348	116	325	287	352	317	208	484	434	66	536	372	592	355	37
Oct. 6-----	396	551	92	20	26	107	288	334	379	108	390	437	155	528	---	497	321	234
Oct. 7-----	554	539	47	258	128	409	30	43	321	250	528	542	94	521	233	628	376	376
Averages-----	429	485	188	319	250	303	178	211	290	295	265	452	258	500	352	551	347	232
Oct. 8-----	558	514	329	49	84	55	39	41	105	171	508	378	250	470	---	622	101	350
Oct. 9-----	557	507	389	476	351	439	66	76	59	400	508	456	393	489	448	645	457	240
Oct. 10-----	186	509	405	419	324	408	175	313	103	398	506	493	381	464	---	571	455	335
Oct. 11-----	581	483	342	426	321	396	92	72	128	384	386	382	340	502	(428)	630	432	320
Oct. 12-----	426	494	152	395	292	396	44	191	215	375	---	329	212	505	---	615	442	306
Oct. 13-----	527	393	108	176	61	344	276	(311)	313	247	468	446	74	493	(157)	232	419	207
Oct. 14-----	523	320	237	17	38	56	149	171	134	24	487	339	37	490	---	189	61	318
Averages-----	480	460	280	280	210	299	120	(168)	151	286	477	403	241	487	---	501	338	297
Oct. 15-----	524	274	95	28	29	111	256	(297)	202	131	456	530	289	483	---	326	333	263
Oct. 16-----	491	416	67	29	33	175	198	(230)	165	171	453	557	38	486	---	491	285	329
Oct. 17-----	523	181	335	367	82	327	218	(262)	246	67	467	305	33	482	---	432	400	203
Oct. 18-----	514	315	100	305	84	280	42	(61)	231	47	448	502	140	474	(287)	599	224	286
Oct 19-----	492	230	312	130	116	297	70	90	76	135	446	567	153	459	---	614	287	198
Oct. 20-----	496	397	108	331	185	360	111	(128)	178	270	410	505	192	459	325	638	391	291
Oct. 21-----	438	419	332	301	50	278	85	(94)	179	165	400	475	95	381	280	597	319	288
Averages-----	497	319	193	213	83	261	140	(166)	182	141	440	492	134	461	---	528	320	266
Oct. 22-----	494	375	(168)	419	307	377	177	250	304	359	400	467	236	475	384	642	407	259
Oct. 23-----	473	419	(120)	333	248	351	152	260	289	291	376	477	209	404	---	606	356	86
Oct. 24-----	500	438	168	273	162	241	21	52	40	59	453	475	63	444	211	641	217	163
Oct. 25-----	511	362	194	369	212	350	22	(30)	80	212	455	432	142	437	(332)	590	330	265
Oct. 26-----	508	333	330	243	111	262	116	(125)	232	288	429	492	276	459	(215)	620	324	254
Oct. 27-----	445	442	302	379	293	343	28	41	118	312	376	491	283	458	348	620	362	206
Oct. 28-----	474	(433)	280	331	258	271	109	(140)	188	211	275	428	220	454	331	680	307	259
Averages-----	486	(400)	(223)	335	227	314	89	(128)	178	247	395	466	204	447	(303)	628	329	213
Oct. 29-----	476	426	64	271	208	143	144	104	38	69	336	212	129	450	257	615	131	---
Oct. 30-----	474	427	88	19	26	134	81	(79)	150	34	425	401	38	446	---	618	208	107
Oct. 31-----	395	403	208	340	210	318	84	(102)	---	113	401	488	144	444	335	606	299	47
Nov. 1-----	337	426	66	344	243	322	103	249	---	276	377	483	255	435	---	528	351	199
Nov. 2-----	280	374	233	317	127	302	20	30	---	127	381	479	22	425	(301)	580	338	114
Nov. 3-----	479	414	43	141	84	228	16	(35)	---	49	407	462	169	413	149	586	101	229
Nov. 4-----	330	401	93	14	19	121	12	(104)	78	174	393	506	97	403	10	574	320	77
Averages-----	396	410	114	207	131	224	66	(100)	---	120	389	433	122	431	(210)	587	250	129

Note.--**Langley** is the unit used to denote one gram calorie per square centimeter.

Chart I. A. Average Temperature (°F.) at Surface, October 1955.



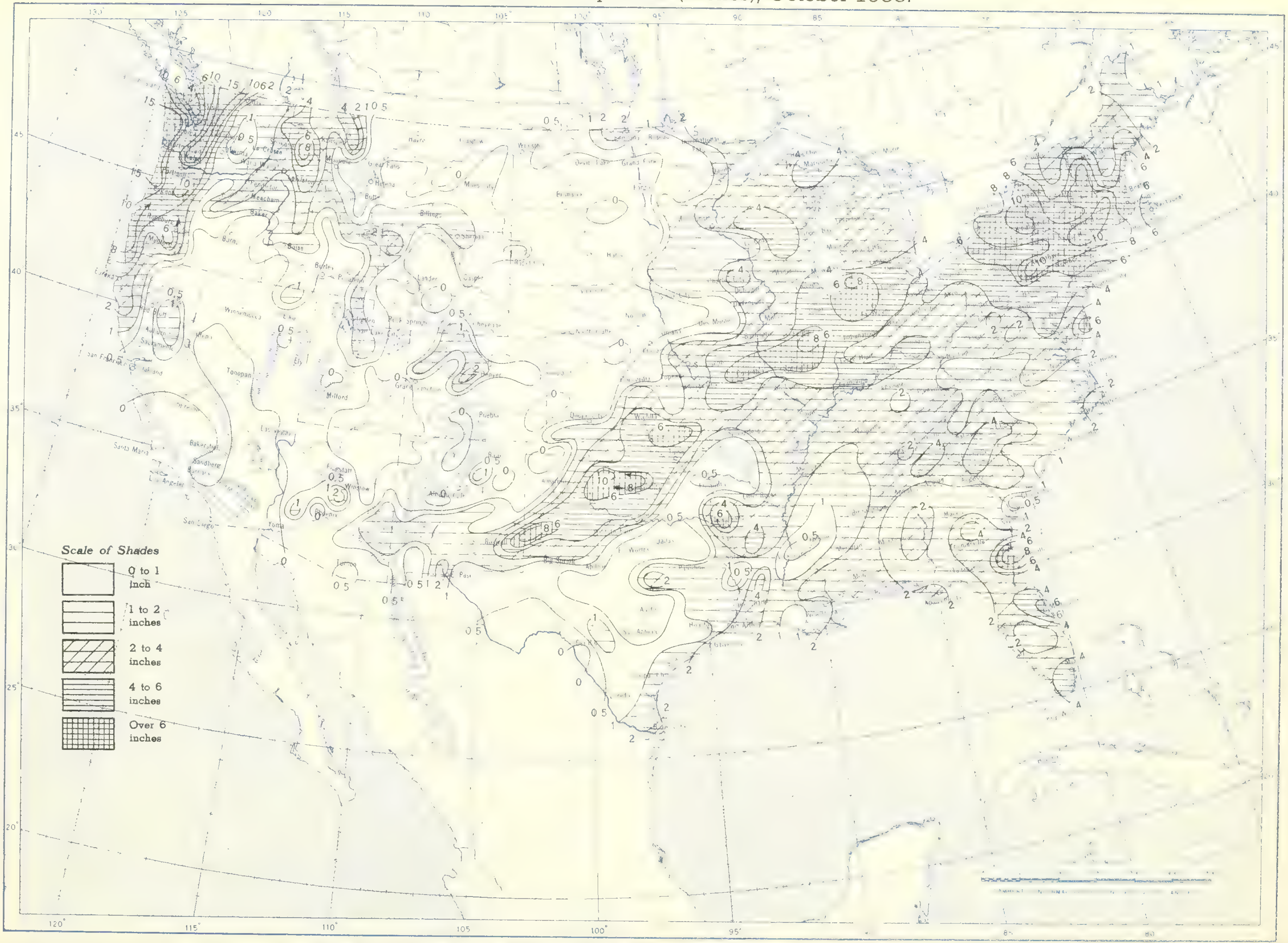
B. Departure of Average Temperature from Normal (°F.), October 1955.



A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

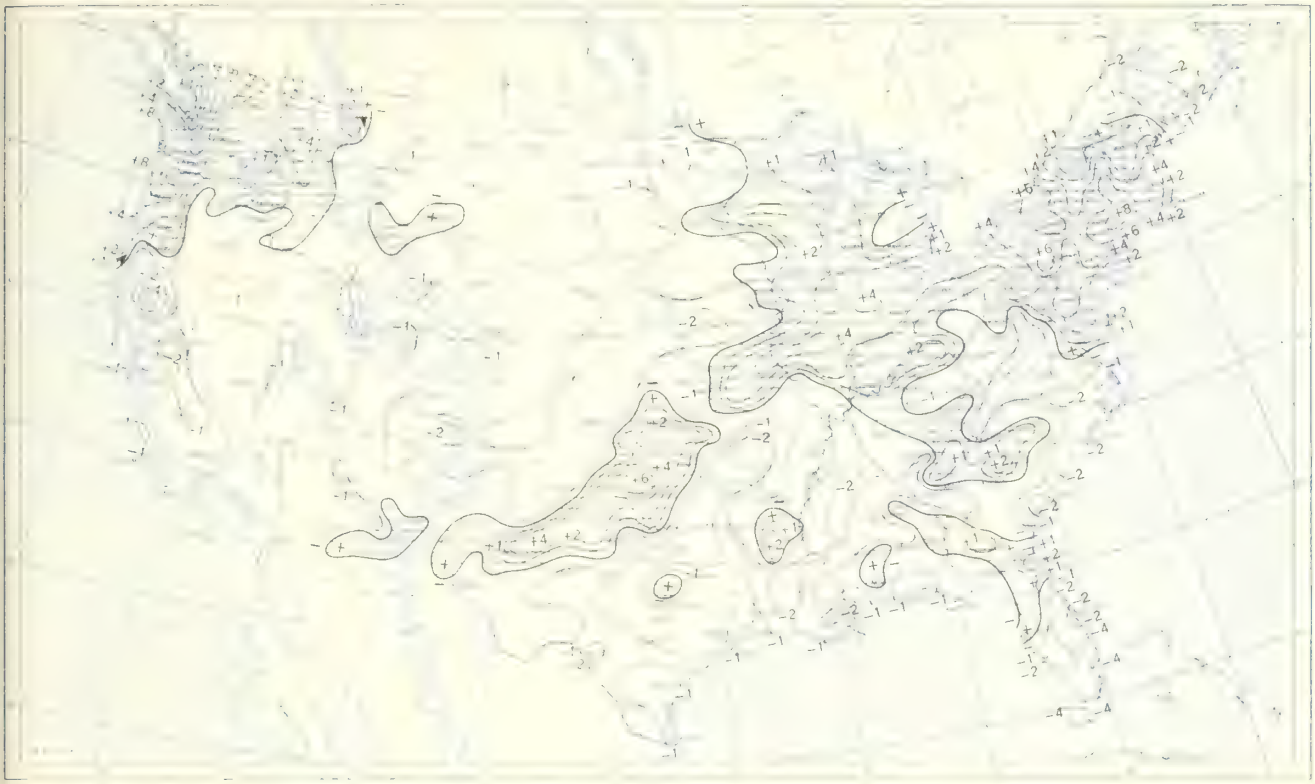
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), October 1955.

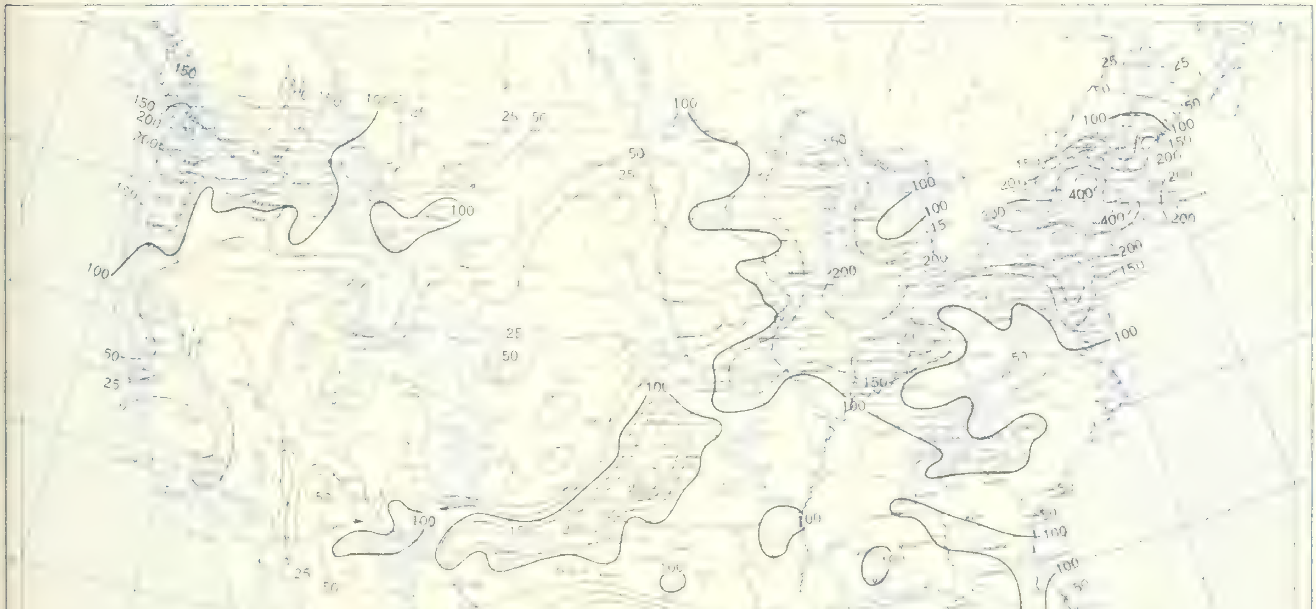


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), October 1955.

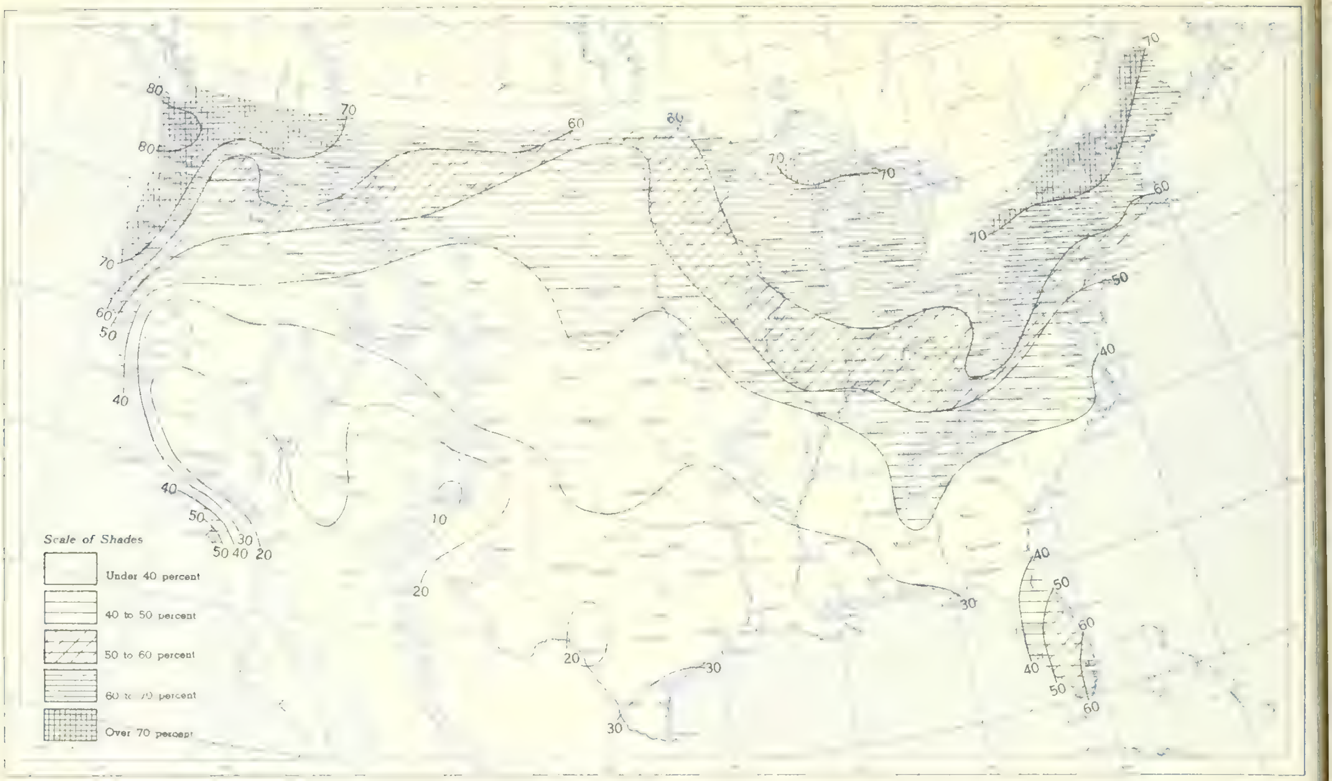


B. Percentage of Normal Precipitation, October 1955.

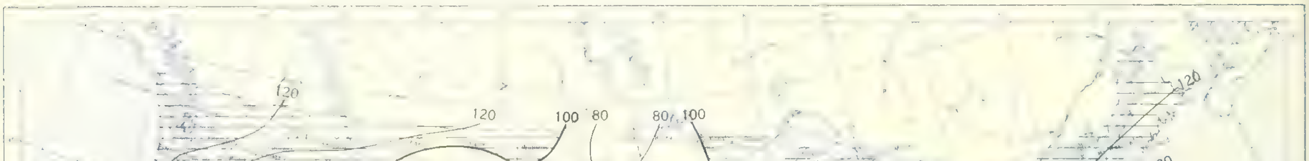


Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, October 1955.

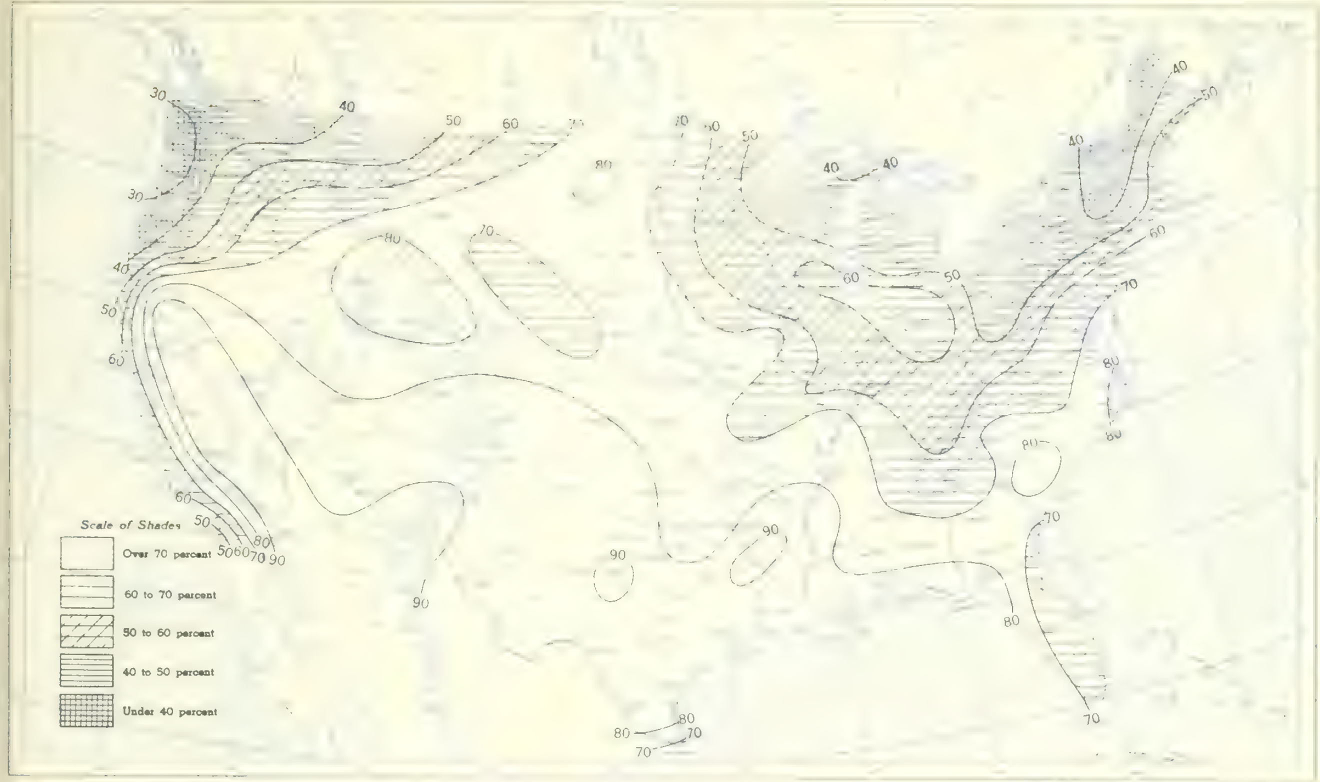


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, October 1955.

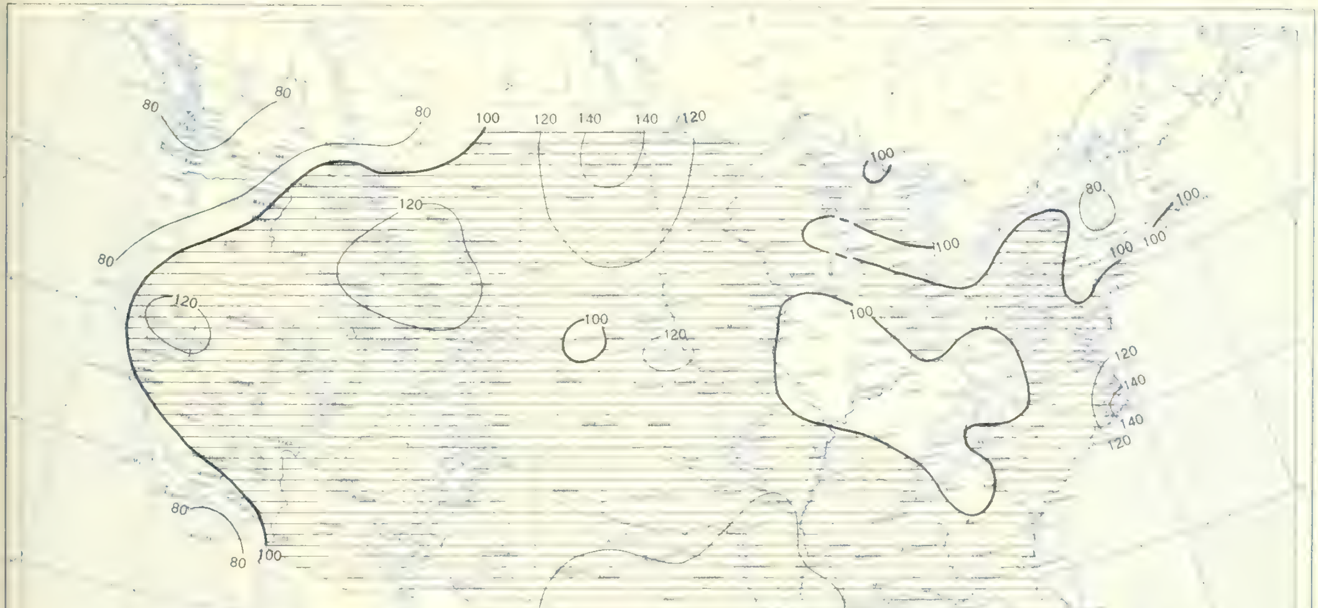


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, October 1955.

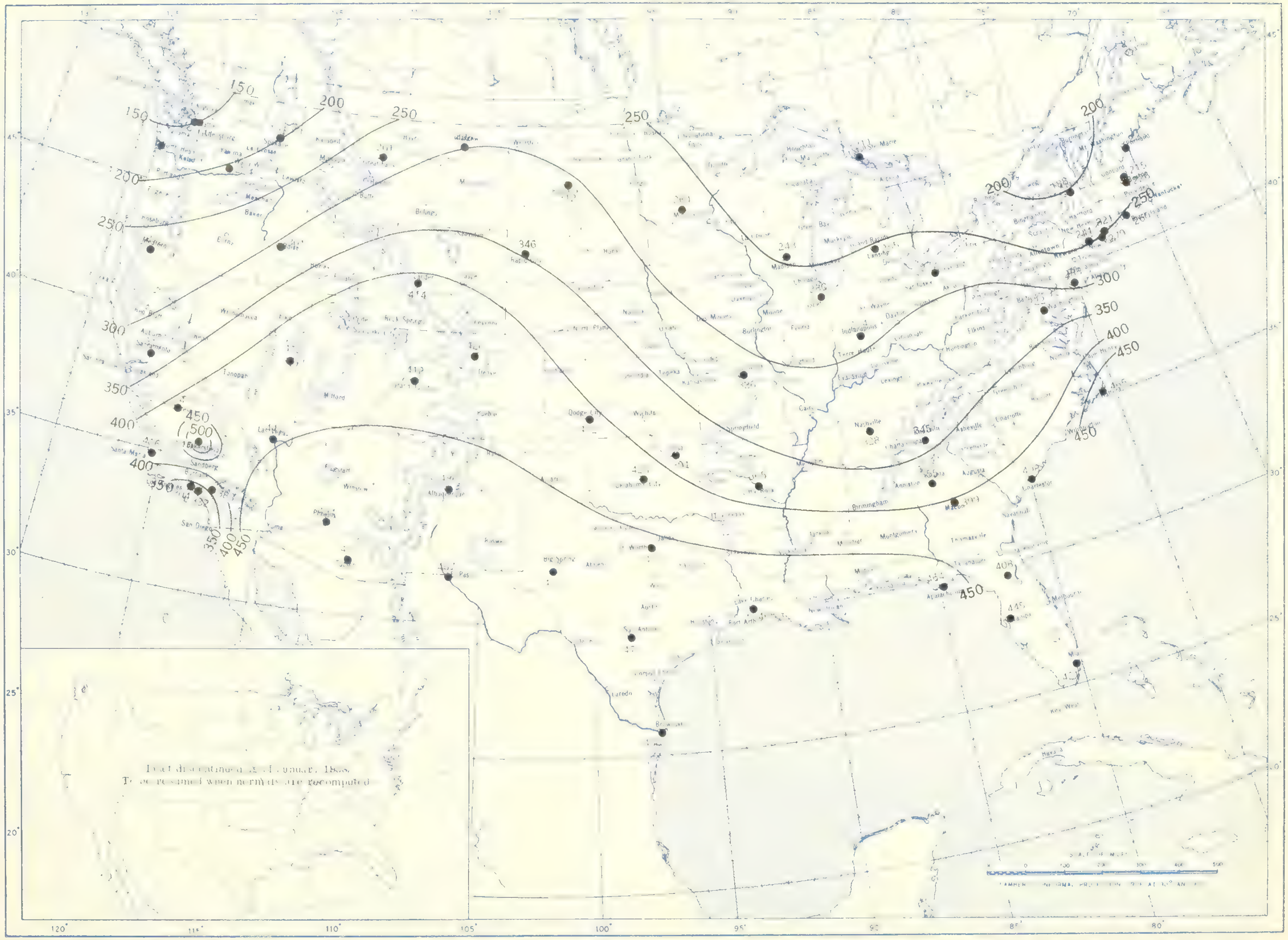


B. Percentage of Normal Sunshine, October 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

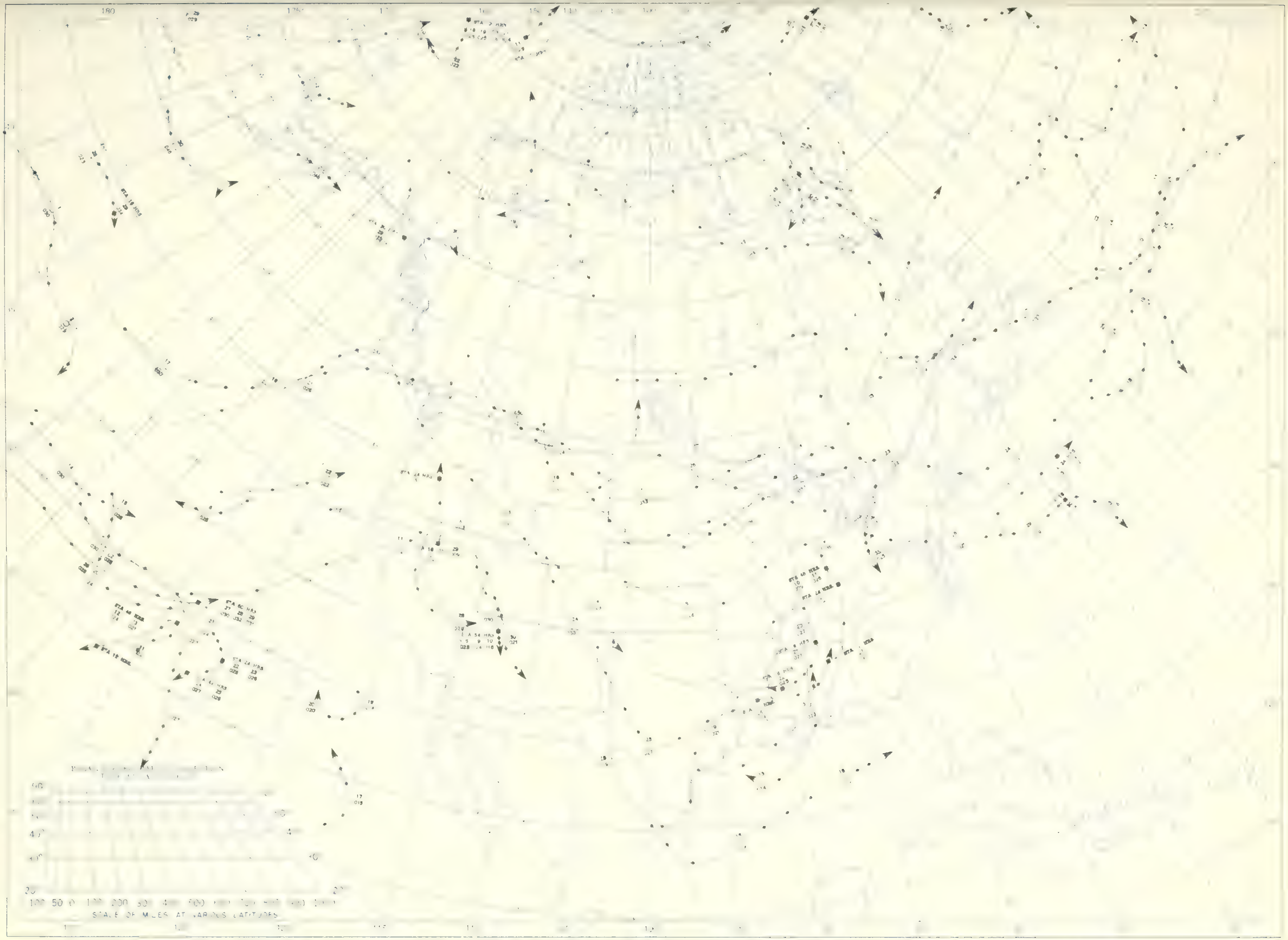
Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, October 1955. Inset: Percentage of Normal Average Daily Solar Radiation.



Inset discontinued as of January, 1955. To be resumed when normals are recomputed.

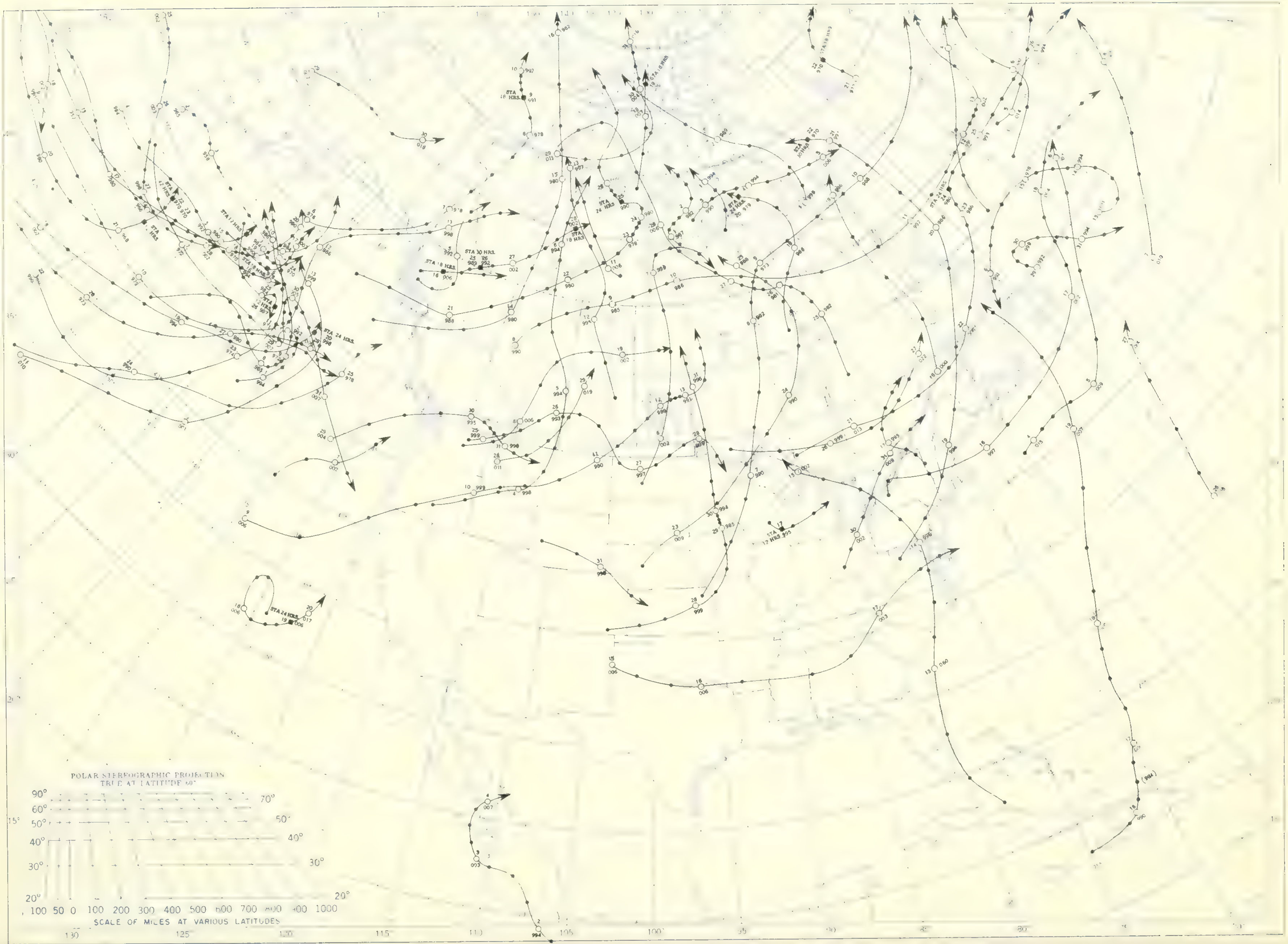
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.). Basic data for isolines

Chart III. Tracks of Centers of Anticyclones at Sea Level, October 1955.



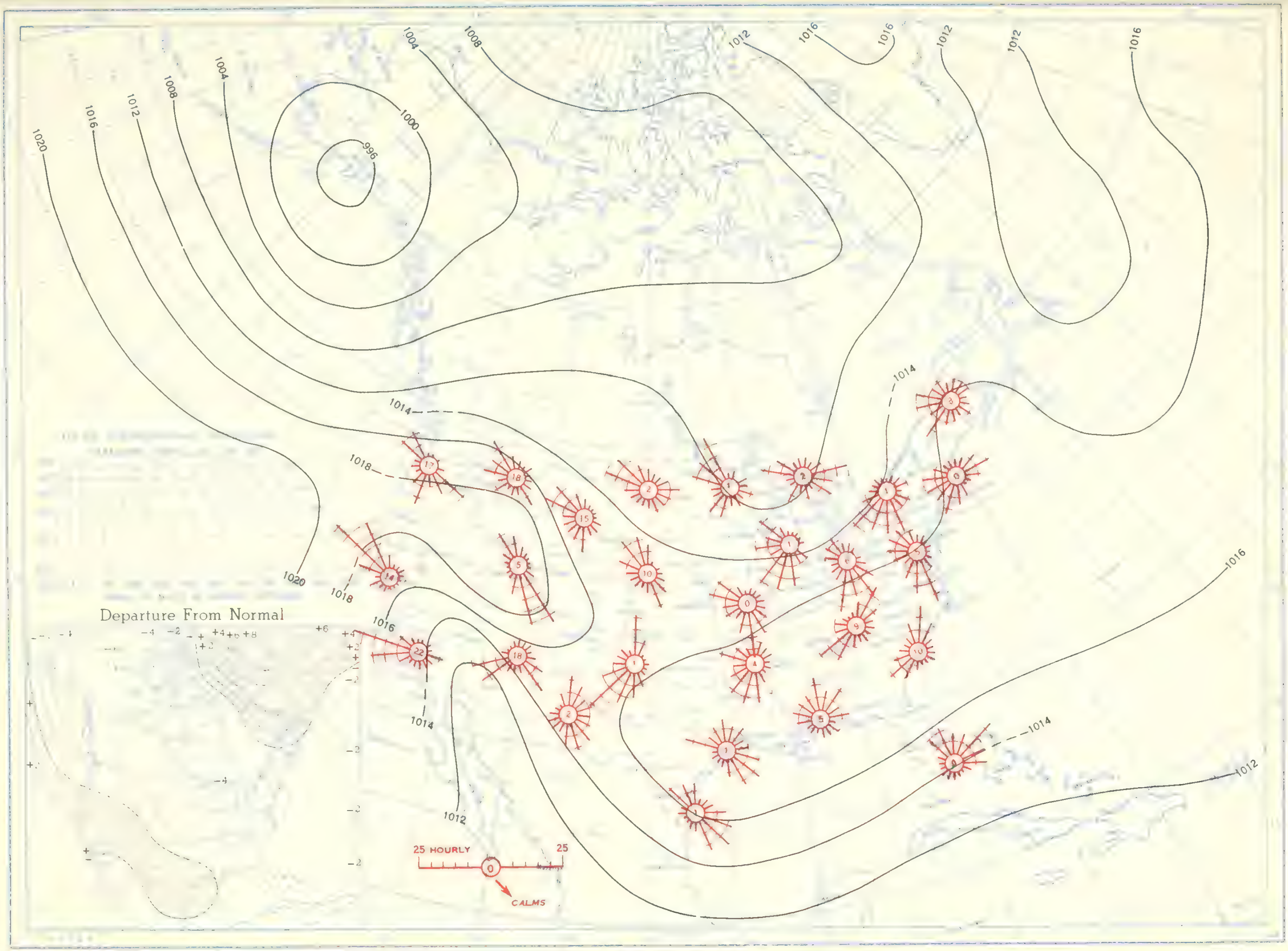
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, October 1955.



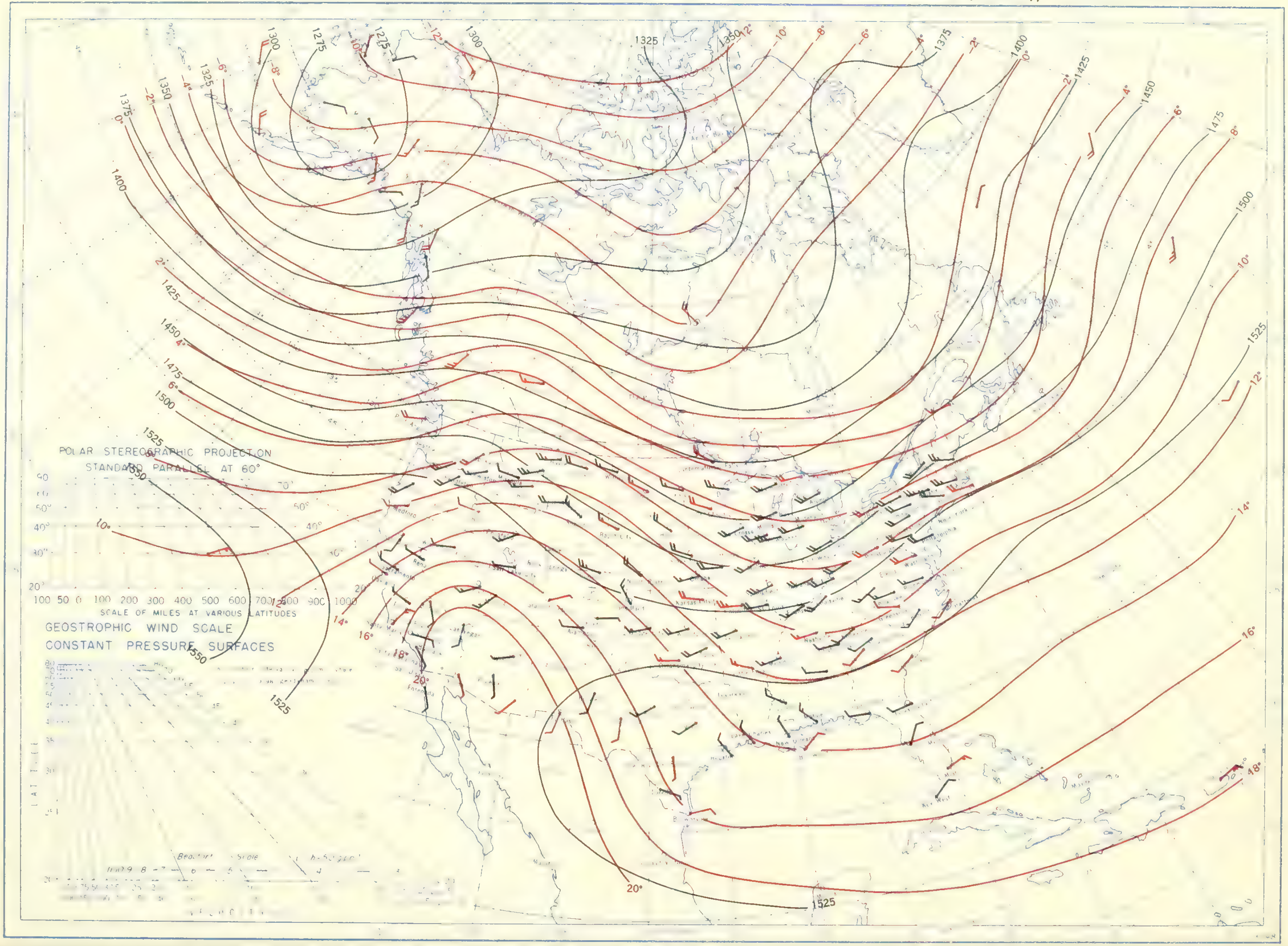
Circle indicates position of center at 7:30 a.m. E. S. T. See Chart IX for explanation of symbols.

Average Pressure (mb.) from Normal, October 1939.



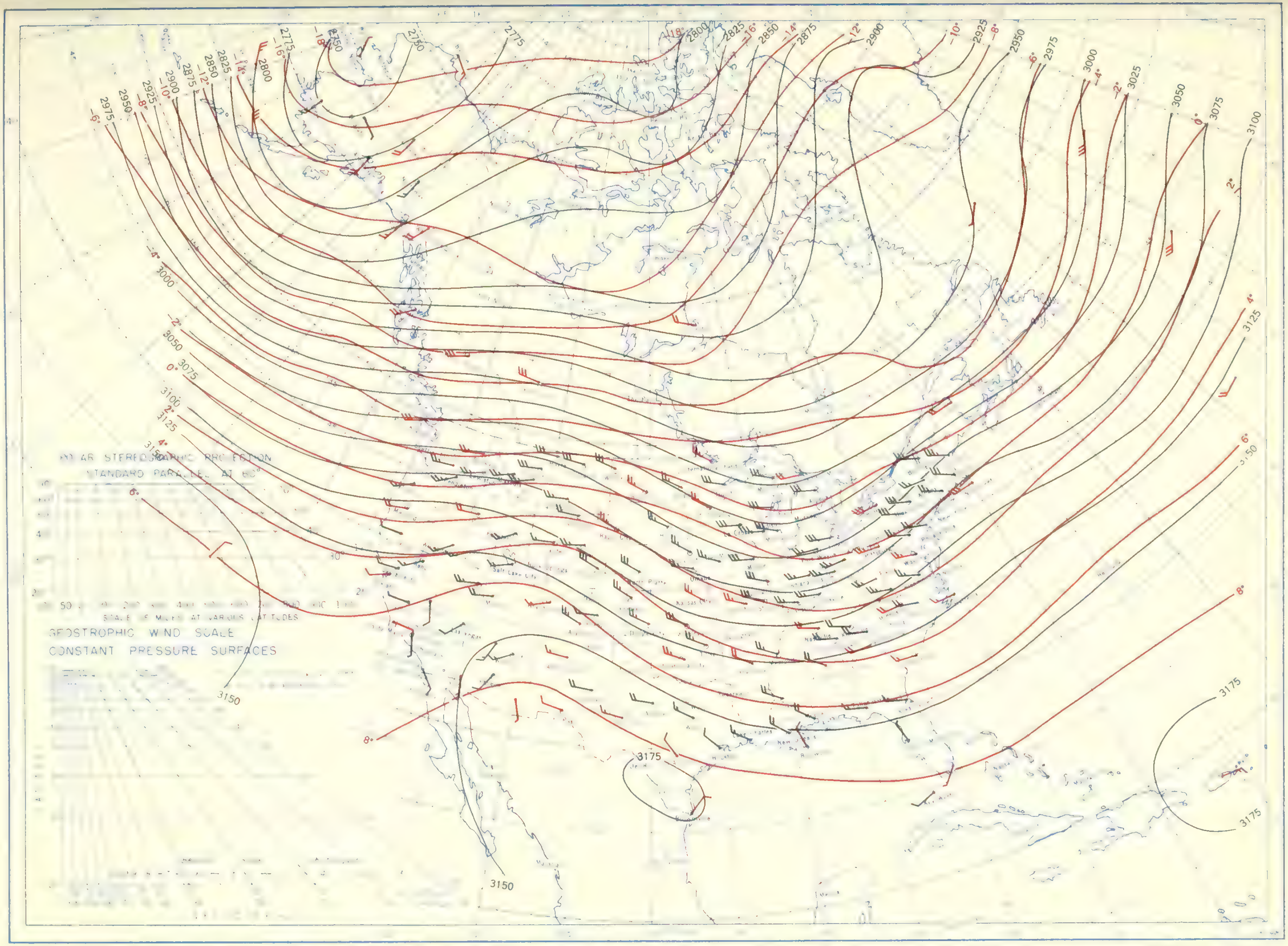
Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), October 1955.



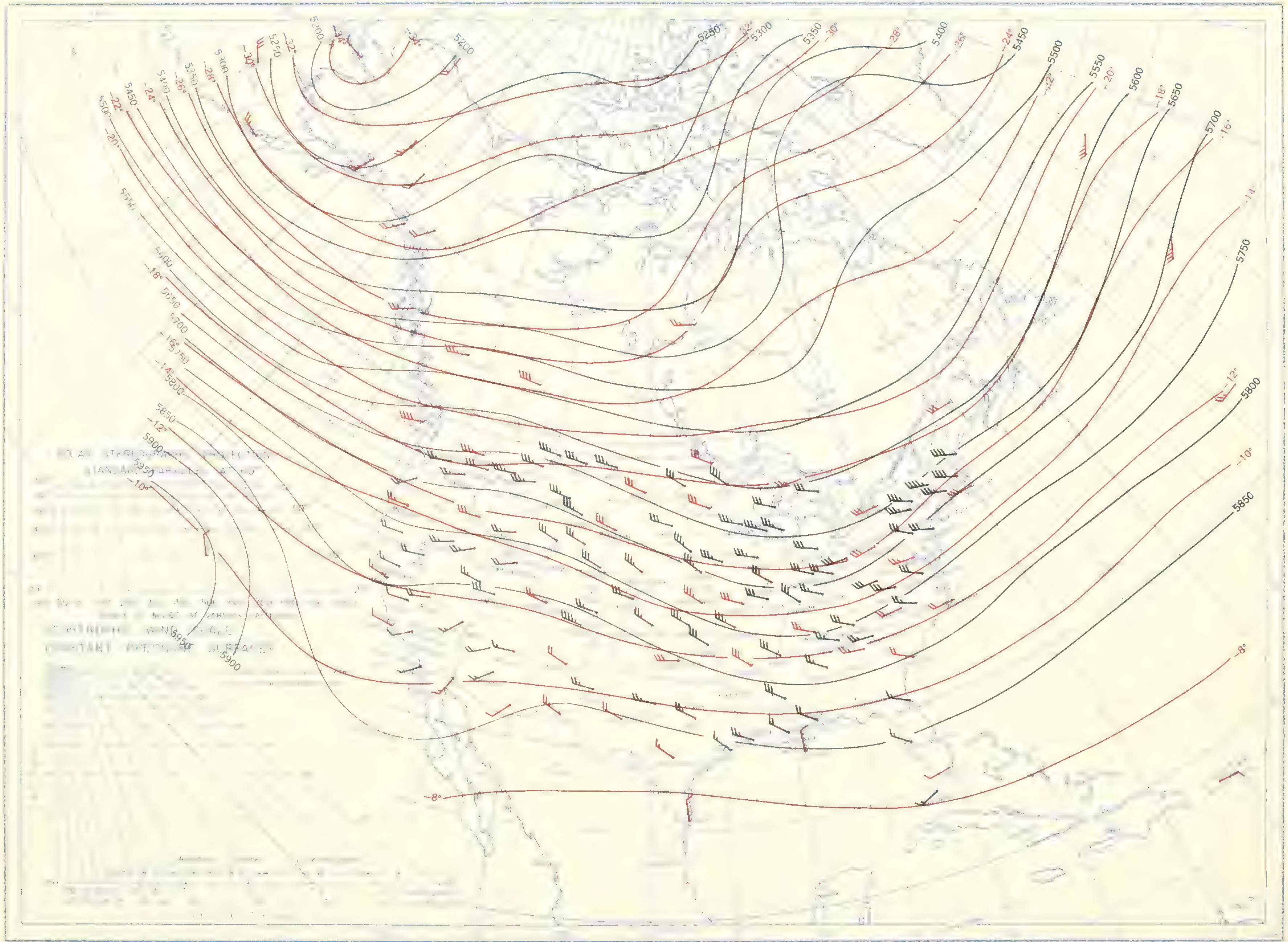
Contour lines and isotherms based on radiosonde observations at 0200 G. M. T. Winds shown in black

Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), October 1955.

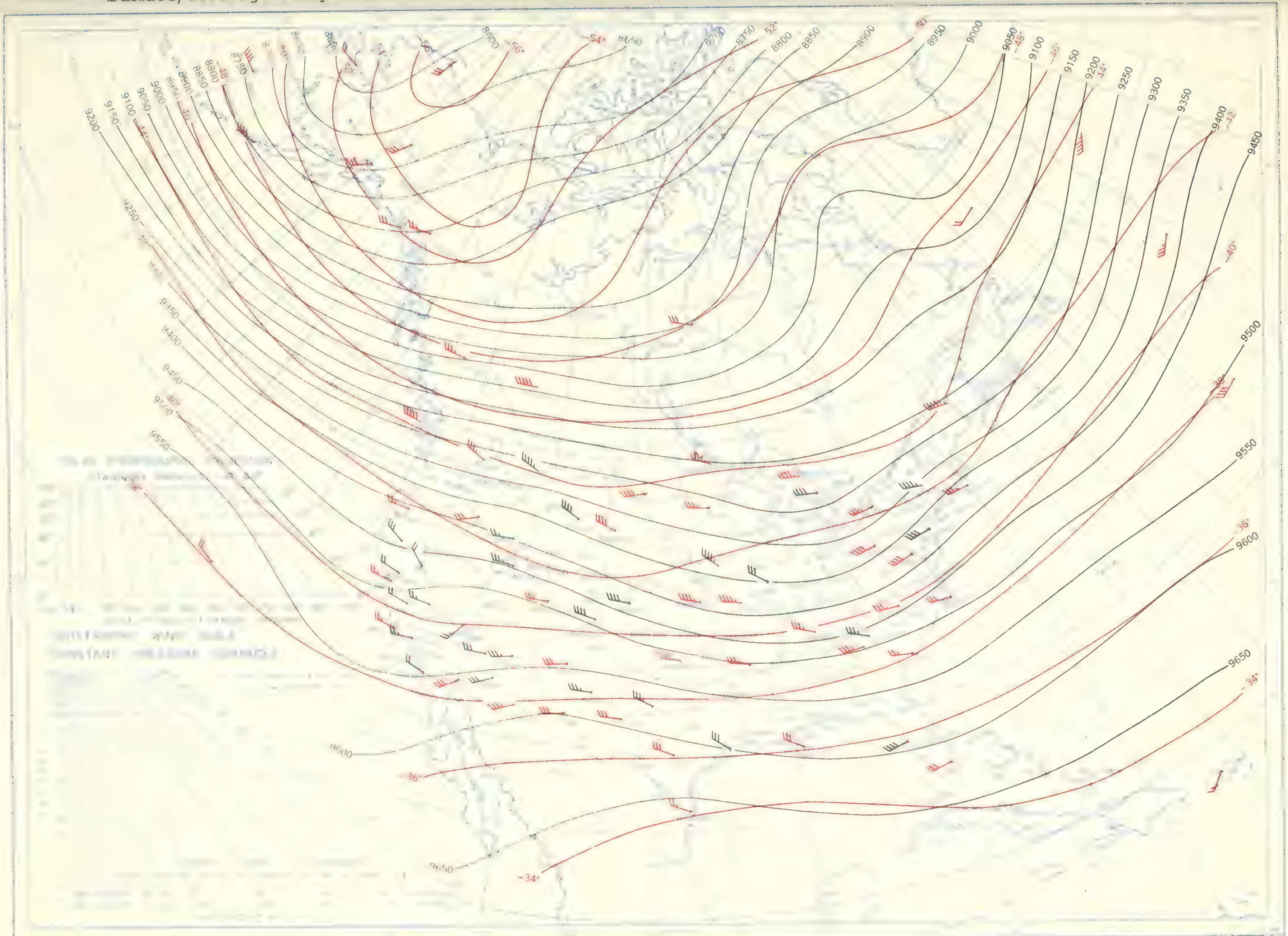


Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), October 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

NOVEMBER 1955
Volume 6 No. 11

ASHEVILLE: 1956

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NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

/olume 6 No. 11

NOVEMBER 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

November, colder than usual over virtually the ntire United States, was particularly featured y the severe cold, stormy weather west of the reat Lakes. Near midmonth record cold caused eavy crop losses in Washington and Oregon. Snowall, occurring with unusual frequency, was above ormal in the northern third of the Nation and set ew records for November in parts of the Northwest. elow-normal precipitation in the major portion of he Central Interior and southern third of the ation extended the period of dry weather to neary 2 months in the central and lower Great Plains here fall-sown grains were beginning to show some eterioration from lack of moisture and from wind rosion. In north-central areas lakes and streams roze over 2 to 4 weeks earlier than usual, and hore and floating ice was observed at Burlington, owa, the last 3 days. Light, floating ice was eported as far south as St. Louis, Mo., on the 0th. As the cold air outbreak, which brought he lowest temperatures of the month to the western wo-thirds of country near midmonth, moved across he Central States on the 15th and 16th, severe hunderstorms and several tornadoes caused widepread damage in the Ohio and middle Mississippi alleys.

TEMPERATURE.--Temperatures for November averaged elow normal everywhere, except in a few relatively mall areas along the Atlantic Coast and in southrn portions of Arizona and New Mexico where they veraged slightly above. The month was unusually old west of the Great Lakes where average deparures from normal ranged from 4° to 17°. This was he coldest November in most of that area since he record cold of 1896. The statewide average or Washington was the lowest during a 66-year ecord. The cold spell from about the 11th to the 8th was, for most of this area, the longest period f severe cold weather ever recorded in November, ith averages on some days more than 30° below ormal. Extreme lows of -30° or lower were reorded in North Dakota, Wyoming, Colorado, Montana, daho, and Oregon. The low of -32° in Oregon qualed the record low for the State established n 1896 and the month's lowest for the United tates, not a record, was -39° at Bondurant, Wyo., n the 16th. Several individual stations recorded ew low records for the month; for instance, at elena, Mont., the previous November low of -22° bserved on the 27th in 1896 was exceeded three imes within four days (-23° on the 13th, -29° on he 15th, and -25° on the 16th). Portland, Oreg., ad maximum temperatures below 32° on 6 consecutive ays, a November record. This severe cold was esponsible for heavy crop losses in Oregon and ashington, with estimates in the latter State anging up to $11,000,000.

The warmest weather in the western half of the ation occurred early in the month and in the eastrn half about midmonth when maxima were in the 0's throughout the South and a few stations in exas, Arkansas, and Louisiana recorded 90° or igher. A temperature of 93° at Angola, La., on he 13th was the highest recorded in the State since 1916.

PRECIPITATION.--The month's precipitation showed wide variations from normal, with the most important deficiency occurring in a large area extending from the middle Mississippi Valley into the Far Southwest. Moisture in this area, less than 50 percent of normal, generally totaled less than a quarter of an inch and many stations had no measureable amounts at all. Kansas City, Mo., had only 0.05 inch for the second driest November on record, Oklahoma City, Okla., only 0.04 for the third driest on record, and Goodland, Kans., 0.09 inch for the second driest November on record.

On the other hand precipitation was above normal in northern areas where it occurred with unusual frequency and mostly in the form of snow. This was among the wettest Novembers on record in Washington; heavy rain from the 2d to 5th totaled 5 to 12 inches west of the Cascades, resulting in considerable flood damage; Cougar had a monthly total of 30.07 inches which was the highest in the United States as well as the State; and Forks measured the greatest daily amount 8.85 inches on the 3d.

SNOWFALL.--Snow covered the ground most of the month from the Great Lakes westward where falls were both frequent and above normal, with amounts in some areas two to four times those usually expected in November. Statewide averages were the greatest of record for Idaho (15.6 inches) and Oregon (13.8 inches) and a large monthly totals in the area included 30 inches at Wahalla, N. Dak., 52 at Haugan, Mont., and 104 inches at Crater Lake, Oreg. Depths at the end of the month ranged up to 60 inches at Mullan Pass, Idaho, and up to 70 inches or more in the Cascades.

East of the Great Lakes snowfall was above normal, but the ground was bare most of the month as much of the snow fell on the 19th and 20th and soon melted.

Snowfall records included a monthly total of 22.1 inches for Great Falls, Mont.; a November record 24-hour fall of 19.9 inches for Buffalo, N. Y., on the 28th and 29th; a 2.5-inch fall at Boston, Mass., which was record fall for so early in the season since 1894; a record total of 26.2 inches for the month at Mount Shasta, Calif.; about 6 inches near midmonth at Eugene, Oreg., the first snow ever observed there in November; and a trace at Del Rio, Tex., on the 8th for its earliest snowfall.

DESTRUCTIVE STORMS.--The outbreak of severe storms in the Midwest on the 15th and 16th caused damage in Arkansas, Missouri, Illinois, Indiana, and Ohio which totaled well over $3,000,000 and several persons were killed. In Illinois alone damage was estimated at $2,200,000. In Indiana tornadoes occurred in both Indianapolis and Evansville, causing losses estimated at $46,000 and $250,000 respectively. In Ohio a tornado near Greenville on the 15th was responsible for over $500,000 damage. In Illinois wind and hail caused $750,000 in Mattoon and vicinity, $100,000 in Vandalia and vicinity, and lesser amounts in many other cities and towns.

In Michigan high winds on the 3d caused $150,000 damage in northern and central portions. Up to 12 inches of snow fell during this storm. A windstorm, with speeds up to 60 m.p.h., caused considerable damage in northwestern Washington on the 11th. Also in Washington heavy rains on the 2d to the 5th, totaling 5 to 12 inches over the Olympic Pe insula, were responsible for floods which caus considerable damage. In western Oregon high win on the 24th and heavy rains on the 24th-25th caus considerable damage.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

NOVEMBER 1

Section	Temperature								Precipitation					
	Average	Departure from normal	Monthly extremes						Average	Departure from normal	Monthly extremes			
			Station	Highest	Date	Station	Lowest	Date			Station	Greatest	Station	Lea
	°F	°F		°F			°F		In.	In.		In.		In
Alabama	52.4	1.7	Martin Dam	89	15	Valley Head 3S	10	29+	3.24	-0.16	Lock 17	7.07	Lockhart	0.4
Arizona	49.9	.1	2 Stations	93	1+	2 Stations	-1	16+	.51	-.20	Bright Angel RS	3.86	23 Stations	.0
Arkansas	49.4	-2.0	Dumas 1	90	14	Gravette	8	29	1.97	-1.84	Hampton	3.79	Gravette	.3
California	50.4	1.6	Indio U.S. Date Gar	95	8	Mt. Hebron	-13	15	2.40	.09	Elk Valley	14.89	11 Stations	.0
Colorado	32.9	2.0	Eversoll Ranch	81	11	Fraser	-37	16	.98	.15	Wolf Cr. Pass 4W	6.08	9 Stations	T
Connecticut	40.3	.7	2 Stations	67	1+	Cream Hill	11	29	5.34	1.45	Walcott Reservoir	7.23	Natchaug Ranger Sta.	4.1
Delaware	44.7	-1.9	do	79	13+	Newark College Farm	12	29	1.87	-1.12	Lewes	2.87	Wilmington City Hall	.9
Florida	65.0	.1	6 Stations	89	11+	2 Stations	20	30	1.36	.86	Tarpon Springs	5.19	Fort Pierce	.0
Georgia	54.0	1.2	Camilla	88	14	Blairsville Exp. Sta.	10	29	2.18	.47	Flat Top	6.56	Douglas	.1
Idaho	30.0	5.3	Grand View	72	10	Dixie	-35	15	2.41	.46	Elk River 1S	9.09	Hamer 4NW	.1
Illinois	38.6	-3.6	Du Quoin 2S	85	13	Chenoa	4	29	1.93	-.69	Sidell	6.66	Galena	.1
Indiana	38.[illegible]	3.3	3 Stations	83	13+	Whiting	2	28	4.29	1.27	Spencer	7.92	Whiting	1.1
Iowa	31.0	6.4	Missouri Valley	75	5	Sibley	15	30	.23	-1.49	Lansing	.84	Ida Grove	T
Kansas	39.6	-4.2	Oakley	84	4	Atwood	8	16	.10	-1.29	Plains	.55	12 Stations	.0
Kentucky	44.0	-2.3	Hickman 1E	85	14	Manchester 4SE	5	30	2.69	.76	Falmouth	6.09	Inez	.4
Louisiana	57.6	.8	Angola 3SW	93	13	Converse	17	30	3.41	-1.26	Springville Fire Twr.	7.69	Marion	.4
Maine	34.7	-.5	Bar Harbor	60	9	Fort Kent	3	26	3.52	-.11	Belfast	6.73	Fort Kent	.2
Maryland	43.5	1.7	3 Stations	81	14+	Bittinger 2NW	3	29	1.79	-.94	Oakland 1SE	3.76	Aberdeen Phillips Fld	.9
Massachusetts	39.6	1.4	Rochester	70	1	Adams	7	29	5.19	1.44	Blue Hill	8.42	Haverhill	3.2
Michigan	33.3	2.7	Dowagiac	69	13	Beechwood 7WNW	12	28	2.82	.30	Kinross AF Base	5.21	Hubbard Lake Dam	1.2
Minnesota	22.2	7.2	Beardsley	68	4	2 Stations	23	30	1.01	.17	Tower Ranger Station	2.91	Madison	.1
Mississippi	53.7	-1.3	Belzoni	89	14	Houston 2NE	12	29	3.51	-.28	Crystal Springs 4NNE	6.91	Eupora	1.3
Missouri	41.6	-3.0	Ozark Beach	90	14	Maryville Radio KNIM	-4	28	1.09	-1.64	Farmington 1E	5.78	5 Stations	T
Montana	19.6	-12.3	2 Stations	72	4	Kings Hill	-37	15	1.33	.55	Essex	8.74	Lima	.0
Nebraska	31.1	6.0	Mc Cook	82	1	Harrison	19	16	.30	.49	Harrisburg 10NW	1.27	2 Stations	.0
Nevada	39.5	1.1	N. Las Vegas Doxarm	85	9	Wilkins	20	15	.58	-.06	Arthur 5NW	2.39	5 Stations	.0
New Hampshire	34.8	-.8	2 Stations	61	13	First Conn Lake	2	23	3.57	.16	Peterboro 2S	5.34	Bethlehem	1.7
New Jersey	42.9	1.1	3 Stations	76	13+	Layton 3NW	8	29	2.39	-1.04	Milton	4.74	Deepwater	.6
New Mexico	43.5	.5	do	85	1+	Gavilan	-22	16	.15	-.39	Bateman Ranch	1.95	49 Stations	.0
New York	36.6	1.0	N.Y. Westerleigh Stat. Is.	71	11	2 Stations	1	29	2.91	-.18	Riverhead Research	7.48	Lawrenceville	.4
North Carolina	49.4	1.0	Faison	87	13	Boone	3	29	2.30	-.49	McKinney Gap	5.95	Gloucester Gap	1.1
North Dakota	15.1	12.0	Fort Yates	73	4	Parshall	-30	16	.88	.27	Walhalla	2.88	Verona	.0
Ohio	39.3	2.2	2 Stations	61	13	Geneva 3SW	0	29	3.51	.80	New Carlisle	5.80	Athens	1.0
Oklahoma	47.8	-2.1	Wister Dam	85	12	Kenton	2	16	.15	-1.88	Kiamichi Tower	3.01	Numerous	.0
Oregon	36.5	3.7	Brookings	76	9	Ukiah	32	15	5.19	1.32	Valsetz	25.59	Rome	.4
Pennsylvania	38.6	2.5	Claysville 3W	80	15	3 Stations	0	29	2.58	-.42	Greenville	5.41	Coatesville	.6
Rhode Island	41.1	2.0	Kingston	62	12	Kingston	15	27	5.27	1.44	Kingston	5.93	Block Island WB AP	4.4
South Carolina	52.8	1.0	Yemassee 4W	87	16	Caesars Head	7	29	2.29	-.04	Long Creek 1N	4.75	Ridgeland 2SE	.6
South Dakota	23.3	-9.8	Wasta	78	4	Camp Crook	-25	13	.38	-.28	Date	1.68	2 Stations	T
Tennessee	46.5	1.9	Union City	86	14	Crossville CAA AP	5	29	3.68	.02	Lynnville 4SW	7.49	Memphis WB City	1.9
Texas	55.1	.3	3 Stations	94	1+	Follett	5	16	.62	1.22	Bon Wier	4.68	Numerous	.0
Utah	34.7	2.1	St. George PH	78	10	Woodruff	27	16	1.26	.33	Alta	9.92	2 Stations	.0
Vermont	33.8	1.2	Readsboro 1SSE	63	3	Lemington	3	23	2.94	-.27	Mays Mill	7.90	Cornwall 1N	1.95
Virginia	45.0	1.8	4 Stations	86	13+	Big Meadows	0	29	1.85	-.72	Cheriton	5.09	Bowling Green	.5
Washington	32.6	7.3	Yakima WB AP	70	9	Deer Park 2E	19	15	7.12	2.44	Cougar 1E	30.07	Oroville 3NW	.9
West Virginia	40.7	-2.4	Williamson	83	14	Spruce Knob	3	29+	2.16	-.64	2 Stations	3.93	Iaeger	.6
Wisconsin	28.6	4.4	Beloit	64	15	Danbury 1SE	18	30	1.11	.78	Gurney	3.23	Martintown	.17
Wyoming	25.6	5.7	Glenrock 1W	77	7	Bondurant	39	16	1.09	.29	Snake River	5.87	Lance Creek 10N	.04
Puerto Rico	76.1	.2	Dos Bocas	95	23	Garzas Dam	50	9+	4.60	2.26	Saint Just	10.11	Ponce	1.32

+ And also on a later date or dates

Note: Dates in Table 1 apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations

CLIMATOLOGICAL DATA

State and station	Elevation ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 90°F or above	Min 32°F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	With thunderstorms	Snow, Sleet, Hail: Total	Max depth on ground	Wind: Average hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear	Partly cloudy	Cloudy	Sky cover: tenths sunrise to sunset	Possible sunshine
	Ft	Mb	Mb	°F	°F	°F	°F	°F		°F				°F	%	In	In	In			In	In	M p h		M p h			0–3	4–7	8–10	0–10	%
ALABAMA																																
mingham	610	991.9	1020.4	63	38	50.7	-1.3	82	11	19	29	0	13	[illegible]	66	4.69	[illegible]	1.61	[illegible]	[illegible]	0.0	[illegible]	[illegible]	N	[illegible]	NW	[illegible]	12	[illegible]	14	[illegible]	61
ile	10	1012.8	1020.0	[illegible]	[illegible]	56.9	1.9	62	12+	[illegible]	29	0	3	46	71	1.47	-2.50	.55	[illegible]	[illegible]	[illegible]	[illegible]	10.6	N	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
tgomery	198	1012.6	1020.3	67	41	54.[illegible]	-1.1	84	15+	22	29	0	5	41	67	1.71	-2.24	[illegible]	[illegible]	[illegible]	[illegible]	0	7.1	NW	[illegible]	SW	[illegible]	[illegible]	[illegible]	12	5.2	60
ARIZONA																																
gstaff	6993	-----	-----	51	22	36.3		67	10	5	16	0	27			.78	.39	1.12	[illegible]	[illegible]	7							16	[illegible]	6	3	
enix	1114	976.0	1015.3	73	45	59.1	.7	87	3	35	21	0	0	[illegible]	45	.05	-.42	.03	2	[illegible]	0		[illegible]	E	*22	N	[illegible]	19	[illegible]	6	2.6	90
scott	5014	847.3	1017.1	62	32	46.2	.5	74	[illegible]	19	16	0	16	-	-	.41	.02	.37	3	0	.4	1	[illegible]	SSW	41	SW	11	1	[illegible]	7	3.7	80
son	2558	926.2	1014.4	73	44	58.[illegible]	.6	85	[illegible]	31	16	0	[illegible]	[illegible]	31	T	.6	T	0	0	0	[illegible]	[illegible]	SE	31	SE	6	20	5	5	2.8	76
slow	4880	851.7	1016.2	59	29	44.1	1.4	74	5	15	16	0	22	16	38	.30	.32	.06	2	0	.3	0	8.1	WSW	*37	SW	11	20	1	6	2.9	
ia	199	1009.8	1015.0	78	49	63.6	.6	91	[illegible]	37	24	[illegible]	0	31	31	T	11	T	0	0	0	0	6.4	NNE	37	S	11	22	5	3	2.6	89
ARKANSAS																																
t Smith	458	1002.0	1018.8	63	34	48.5	-2.0	76	1	18	29	0	15	34	61	1.50	-1.52	.52	5	1	.8	1	7.9	SW	40	W	[illegible]	15	[illegible]	[illegible]	[illegible]	62
tle Rock	257	1006.1	1019.1	62	39	50.9	[illegible]	80	13	28	28+	0	9	36	59	1.80	-2.12	.77	5	1	T	0	9.6	S	41	SW	2	13	7	10	4.6	[illegible]
arkana	361	---	---	66	42	53.6	[illegible]	86	12+	21	29	0	8			1.15	-3.18	.77	3	[illegible]	T	0										
CALIFORNIA																																
ersfield	489	1000.3	1019.1	66	41	53.8	2.1	85	[illegible]	34	[illegible]	[illegible]	[illegible]	39	[illegible]	[illegible]	[illegible]	[illegible]	3	0	0	0	3.7	ENE	*[illegible]	NW	[illegible]	21	10	[illegible]	1.1	
hop	4108	874.4	1016.6	66	25	45.5	[illegible]	81	6+	[illegible]	[illegible]	0	[illegible]			.09	[illegible]	.09	2	0	0	0						15	7	[illegible]	1.2	
e Canyon	5280	839.5	1017.6	49	34	41.5	-2.1	73	[illegible]	16	17	[illegible]	[illegible]			9.21	[illegible]	2.52	13	[illegible]	51.2	19						11	3	16	[illegible]	
bank	699	990.2	1016.5	72	47	59.5	1	91	[illegible]	37	2+	2	0	10	5	1.18	.20	.78	5	[illegible]	0	0	3.8	[illegible]	*22	NE	7	13	6	11	5.0	
eka CO	43	1016.9	1019.3	55	44	49.7	.6	61	5	[illegible]	[illegible]	[illegible]	[illegible]			5.77	1.13	2.29	17	[illegible]	0	0	7.1		[illegible]	N	10	[illegible]	6	2	8.3	52
sno	331	1006.8	1019.0	64	38	50.6	-2.9	75	8	31	12+	[illegible]	5	[illegible]	67	1.34	.59	1.05	6	[illegible]	T	T	5.5	NW	26	S	13	1	9	6	4.7	73
Angeles CO	312			71	52	61.1	1.9	87	7	45	1+	[illegible]	0	44	[illegible]	[illegible]	.65	.85	5	0	[illegible]	[illegible]	6.0	[illegible]	[illegible]	E	14	14	[illegible]	11	4.2	74
Angeles	99	1012.9	1016.4	68	51	59.5	.2	87	1+	44	21	0	0	47	63	1.35	.25	.80	5	0	0	0	6.6	W	&35	W	21	14	[illegible]	10	4.7	
Shasta CO	3544	893.7	1019.8	47	30	38.3	-3.2	[illegible]	[illegible]	16	15	0	20			5.89	2.06	2.23	10	0	20.2	9						4	10	16	7.1	
land	3	1019.0	1019.5	62	44	53.0	.8	79	1	37	22	0	0	44	75	2.10	.15	.89	6	0	0	0	4.5	SE	*35	SE	15	11	[illegible]	13	5.4	
Bluff	341	1006.1	1019.0	62	43	52.1	2.4	[illegible]	9	32	13+	0	2	[illegible]	61	3.63	1.36	1.02	8	0	1.9	2	7.1	NNW	26	SE	20	10	3	17	6.5	66
ramento	17	1017.6	1018.7	62	41	51.5	-1.6	61	[illegible]	31	12	0	3	41	68	1.27	-.23	.56	6	0	0	0	6.1	NW	44	SE	13	10	7	13	5.5	56
dberg	4517	863.5	1016.6	56	41	48.2	1.3	80	10	27	14+	0	[illegible]			.65	-.05	.34	1	0	.5	2						17	[illegible]	7	4.3	
Diego	19	1013.2	1016.4	68	52	60.0	.8	84	8	44	16+	0	0	47	67	.55	-.28	[illegible]	3	0	[illegible]	0	6.5	SSW	[illegible]	SW	1	13	7	10	4.6	[illegible]
Francisco CO	52	---		63	50	56.3	.9	84	8	44	14+	[illegible]	0			2.38	.11	.96	7	0	0	0	6.3		24	SE	[illegible]	12	7	11	5.0	62
Francisco	8	1018.3	1019.0	63	45	54.0	.1	82	10	39	2[illegible]	[illegible]	0	46	79	2.05	.43	1.15	6	0	.0	0	6.6	WNW	38	S	[illegible]	11	5	11	5.5	
ta Maria	238	1008.8	1017.6	68	41	54.7	.7	86	6+	30	12	0	2	40	68	1.59	.65	1.21	4	0	0	0	5.8	WNW	*21	WNW	6	16	7	7	4.0	
COLORADO																																
mosa	7538	769.7	1019.9	48	12	30.1	.6	61	10	-10	16	0	28	-	-	.05	.33	.04	2	0	1.2	[illegible]	-	-				16	10	4	3.6	
orado Springs	6173	807.7	1017.6	50	21	35.3	3.8	72	4+	8	16	0	25	15	52	.30	.05	.16	5	1	1.7	2	10.5	SE	*40	SSW	14	9	9	12	5.8	--
ver	5292	835.1	1015.9	49	23	36.2	-3.1	72	4	4	16	0	24	16	58	.36	.14	.31	6	0	7.3	3	11.7	SSW	40	NE	14	9	4	17	6.4	55
nd Junction	4849	860.5	1020.2	45	25	35.1	-3.5	62	12	8	16	0	26	20	59	.44	.21	.20	7	0	4.7	2	[illegible]	ESE	43	W	14	[illegible]	10	15	6.6	54
blo	4639	855.1	1016.5	54	22	38.0	1.3	76	20	1	16	0	23	18	53	.15	.28	.12	2	0	1.7	2	[illegible]	W	40	W	14	6	12	10	5.8	71
CONNECTICUT																																
dgeport	7	1013.4	---	50	35	42.9	.6	65	12+	18	29	0	12	-	-	5.64	1.45	2.98	9	1	1.9	2	----	-				11	7	12	5.4	
tford	169	1007.8	1013.7	47	33	39.6	1.7	63	12	18	29	0	15	30	70	4.83	1.35	2.39	12	1	3.0	3	11.4	NW	51	NW	2[illegible]	6	13	11	6.5	49
Haven	6	1012.6	1013.2	49	34	41.6	1.3	64	12	19	29	0	14			5.59	1.65	3.01	12	1	3.0	3	7.6		26	W	17	8	9	13	5.9	59
DELAWARE																																
mington	73	1012.0	1015.2	53	34	43.3	-.2	76	14	14	29	0	14	32	64	1.30	-1.47	.63	6	[illegible]	1.3	2	8.9	NW		---		16	4	10	4.5	
DIST OF COLUMBIA																																
hington CO	72	-----	-----	53	37	45.7	-2.0	78	14	17	29	0	6			1.51	1.31	.55	7	[illegible]	2.5	2	6.6		31	NW	17					
n. Nat'l. AP	14	1012.1	1016.5	55	36	45.5	-2.2	77	14	16	29	0	8	32	64	1.63	1.10	.72	6	0	2.3	2	10.2	NW	34	NW	17	15	[illegible]	8	4.1	71
FLORIDA																																
lachicola	13	1017.8	1019.0	69	52	60.6	.8	79	3	31	29	0	2		-	1.45	1.00	.71	5	1	0	0	7.7		26	N	26	15	5	10	4.4	77
tona Beach	31	1017.6	1019.1	75	53	64.0	1.1	84	15	35	30	0	1	53	74	2.61	.34	2.55	3	0	0	0	8.0	NW	*25	SSW	16	17	8	5	3.9	
t Myers	15	1017.9	-----	80	55	67.7	-1.5	86	12	40	30	0	0	-	--	.52	-.69	.47	2	0	0	0	7.1	---	--	-	-	20	5	5	3.0	
ksonville CO	18	-----	-----	73	52	62.3	.4	84	15	31	29+	0			--	1.17	-.40	.93	4	0	0	0			-	-	-	--	-	--		
ksonville	24	1018.3	1019.5	73	49	61.3	-.2	86	15	29	30	0	2	47	70	1.90	.28	1.01	4	0	0	0	7.8	SW	35	SW	10	16	6	8	4.1	72
West CO	9	1016.3	1016.9	82	69	75.4	.8	87	[illegible]	57	7	0				.63	1.39	.23	5	0	0	0			17	N	2+	16	10	4	3.9	73
eland	214	----	-	76	57	66.5	-.2	85	16	[illegible]	[illegible]	[illegible]	[illegible]			1.82	.43	1.50	5	2	[illegible]	[illegible]	4					19	9	3	3.0	[illegible]
mi CO	8	-	----	78	67	72.9	.6	83	17+	47	30	0	[illegible]	-	-	.80	1.36	.57	5	0	0	0	11.1		*31	NE	20	19	8	3	3.5	68
mi	8	1016.8	1017.5	81	64	72.6	.5	84	4+	47	30	0	0	62	73	.98	-1.43	.67	4	0	0	0	9.2	NNE	*25	NE	20	17	10	3	4.2	--
mi Beach	9	- -		79	70	74.3	.3	86	4	56	30	0	0			.50	1.78	.41	5		.0	0										
ando	106	1014.9	1019.3	77	54	65.6	1.2	85	15	36	30	0	1	55	76	2.17	.65	1.92	4	1	0	0	8.0	N	*28	S	10	19	7	1	3.2	
sacola CO	13	1017.5	------	68	50	58.7	1.5	79	13+	28	29	0	-	--	-	1.37	2.47	.65	7	1	0	0	10.7		29	N	25	-	-	-		60
ahassee	64	1016.7	1019.4	70	46	58.0	.8	84	15	26	30	0	2	47	75	.97	1.55	.39	7	0	0	0	5.7	NW				12	6	12	5.0	
pa	19	1017.7	1019.0	76	55	65.6	1.1	83	15	37	30	0	0	55	74	2.15	1.11	1.89	3	0	0	0	8.7	N	*30	SSE	10	19	6	5	3.1	80
Palm Beach	15	1016.7	1017.5	81	63	72.7	0	87	19	46	30	0	0	6[illegible]	73	.74	2.25	.64	6	1	0	0	10.7	E	*27	NNE	20	9	18	3	4.8	
EORGIA																																
nta	975	977.6	1020.0	62	40	50.7	-.2	[illegible]	14	17	29	0	4	39	64	2.7[illegible]	.7[illegible]	.98	7	1	0	0	12.3	NW	40	NW	28	13	8	9	4.8	54
ens	798	989.6	1019.1	63	38	50.3	-.7	80	14	18	29	0	7	37	66	2.99	.03	.86	7	1	0	0	9.8	NW	*30	WSW	16	15	6	9	4.4	
usta	143	1012.2	1019.0	67	37	51.9	1.0	84	15	18	30	0	11	40	74	3.36	.92	2.63	8	1	0	0	5.8	W	*24	W	19	11	8	8	4.4	
umbus	385	1005.6	1019.9	66	40	53.0	-1.3	83	16	21	29	0	9			2.58	.24	1.50	7	1	0	0						11	9	10	5.1	
on	356	1005.5	1019.3	67	41	54.0	2.[illegible]	82	14+	21	29	0	6	39	64	2.31	-.42	1.24	6	0	0	0	6.5	NW	29	NW	19	12	10	8	4.7	74
	637	996.5	------	61	34	47.8	-2.7	[illegible]	14	14	29	0	17	-		3.20	1.44	2.13	9	2	0	0						12	8	10	5.1	
nnah	48	1016.7	1019.2	69	43	56.1	-2.0	85	15	25	29+	0	3	47	76	.95	.36	.63	3	0	0	0	6.0	SW	26	NW	10	16	5	9	4.0	69
DAHO																																
e	2842	921.1	1019.4	44	28	35.6	-4.0	64	3	3	15	0	21	27	71	1.43	.08	.45	14	0	6.9	5	9.8	SE	31	NW	10	2	4	24	8.4	29
o Falls W CO	4933	847.3	1020.0	39	13	25.9	-4.1	60	10	-24	16	0	28	-	-	.24	-.32	.16	6	0	1.6	2	9.9		a40	WSW	14					
o Falls NW CO	4790	------	--- --	39	11	24.9	-4.0	62	10	-20	16	0	28	-	--	.21	-.10	.09	8				5.0		a32	S	14					
ston	1413	965.8	1018.7	40	27	33.7	-6.4	63	10	-3	14+	0	18	-	-	1.93	.58	.51	14	0	11.1	3			--			1	3	26	9.1	
tello	4444	862.5	1018.9	43	23	32.8	-3.1	62	4	-13	16	0	21	23	68	.46	-.60	.22	8	0	5.2	4	16.3	SW	67	W	10	1	4	25	8.7	35
LLINOIS																																
o CO	314	1005.4		56	37	46.7	-1.9	82	13	15	28	0	14			2.32	-1.48	.83	5	3	0	0	10.1		40	SW	16	13	9	8	4.2	66
ago	610	991.9	1015.3	45	27	36.0	-3.5	71	15	3	28	0	21	27	71	1.46	.87	.57	12	1	5.4	4	11.7	NW	36	W	16	4	9	17	7.2	46
ne	589	994.2	1017.1	44	24	34.2	-4.6	68	15	2	28	0	23	24	69	.60	1.55	.28	6	1	2.0	1	14.2	WNW	38	W	17	7	11	12	6.2	61
ia	654	994.2	1016.7	45	26	35.6	-4.1	74	15	7	28	0	22	26	69	.72	1.63	.22	12	2	2.2	1	14.0		43	W	27	7	12	11	5.9	56
ngfield	587	994.2	1017.4	48	27	37.9	-3.0	78	13+	8	30	0	20	28	69	.69	1.93	.19	8	1	2.0	2	14.1	S	43	W	16	9	13	8	5.4	61
NDIANA																																
sville	383	1002.0	1018.4	54	31	42.5	3.5	82	13	12	28	0	18	32	70	3.91	.71	1.77	7	4	T	T	10.8	SSW	42	SW	15+	11	9	10	5.3	52
Wayne	801	983.4	1015.6	45	27	36.0	3.7	73	13	6	28	0	23	30	77	4.00	1.54	1.67	11	3	3.8	3	14.4	NW	49	W	16	4	6	20	7.6	48
anapolis	793	986.5	1017.4	48	28	37.6	-3.9	77	13	7	28	0	23	29	72	5.32	2.19	3.02	9	5	3.9	3	12.5	W	53	NW	16	8	8	14	6.5	62
h Bend	768	986.1	1015.0	44	27	35.6	3.1	71	13	3	28	0	21	29	78	2.61	-.13	1.02	14	3	11.4	4	12.9	SW	*40	WSW	16	2	6	22	8.1	

ee footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	
	Ft.	Mb.	Mb.	°F	°F.	°F.	°F	°F		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10
IOWA																															
Burlington	694	991.2	1017.3	45	24	34.2	-5.3	70	15	4	30	0	24	24	68	0.28	-1.98	0.08	6	1	1.8	1	12.4	WNW	35	NW	27	11	7	12	5.6
Des Moines	948	979.0	1017.2	41	21	31.1	-7 3	66	5	0	30	0	27	21	69	.11	-1.57	.06	4	0	1.2	1	15.2	NW	50	NW	5	5	7	18	6.9
Dubuque	1065	989.5	1015.7	40	22	30.9	-4 7	61	5	0	28	0	25	22	70	.36	-1.77	.12	5	1	1.8	1	----	---	---	---	--	3	9	18	7.6
Sioux City	1094	974.6	1017.6	40	18	28.9	-6.6	67	5	-6	30	0	29	14	57	.12	-1.08	.05	4	0	1.1	1	17.7	NW	56	NW	27	5	7	18	6.9
KANSAS																															
Concordia CO	1375	977.3		49	26	37 4	-4 7	73	4	6	16	0	21	--	52	.13	-1.02	.06	4	0	1.0	T	8.9	---	28	N	28	13	10	7	4.5
Dodge City	2594	927.2	1017.5	53	25	39.3	-3.4	78	21	2	16	0	25	19	50	.07	-.80	.06	2	0	.6	1	14.5	NNE	49	N	5+	12	12	6	4.8
Goodland	3645	887.6	1017.1	50	19	34.7	-2.8	78	4	-3	16	0	29	18	59	09	-.49	.05	3	0	.9	1	12.8	WSW	*38	NNW	5	10	10	10	5.5
Topeka	879	982.1	1018.6	51	25	38 4	-4.2	73	20	8	16	0	22	22	55	.19	-1.40	.14	4	1	.9	1	12.2	WNW	38	N	27	11	12	7	4.6
Wichita	1321	972.6	1018.0	54	28	40.8	4 3	76	5	10	16	0	20	22	51	03	-1.70	.02	2	0	.2	T	13.7	NNW	42	N	2	11	14	5	4.2
KENTUCKY																															
Lexington	979	981 6	1018.2	52	31	41 7	2.1	78	13	10	28	0	19	31	68	2.56	-.59	.83	9	2	.2	T	11.8	S	--	- -	--	11	7	12	5.2
Louisville	474	998.4	1018.1	54	33	43.3	2.4	80	13	11	28	0	18	33	67	3.73	61	2.23	7	5	.3	T	11.6	WNW	56	S	16	10	9	11	5.4
LOUISIANA																															
Baton Rouge	64	1016.9	1019.9	70	47	58 4	7	85	13	28	29	0	2	46	69	4.81	.08	2.32	9	3	.0	0	10.2	N	-		-	7	11	12	6.3
Lake Charles	12	1018.3	1019.1	69	50	59 4	.1	84	13	30	29+	0	2	49	72	4 09	.25	2.05	7	4	.0	0	9.2	NE	*29	N	16	7	9	14	6.4
New Orleans CO	9	1017.3	------	69	53	60.8	-1 7	84	13	34	29	0	0	--	-	3.52	-.49	1.96	12	4	.0	0	7.6	---	18	NE	17	7	9	14	6.0
New Orleans	3	1017.6	1019.6	69	51	60.1	-.8	85	16	35	29	0	0	50	72	2.74	-1.35	2.00	11	4	.0	0	10.7	S	*37	NNW	16	5	13	12	6.3
Shreveport	252	1010.5	1019.4	67	44	55.3	1	88	12	25	29	0	5	42	64	.82	3.08	.31	7	0	.0	0	11.6	S	---	---	--	12	6	12	5.1
MAINE																															
Caribou	624	984.8	1009.3	36	25	30.6	1.4	49	1	10	23	0	22	25	79	1.21	1.82	.33	13	0	6.5	2	12.6	W	*37	W	18	2	7	21	8.1
Portland	61	1007.5	1011.6	44	29	36 1	1 4	58	13	15	23	0	23	28	75	3.73	.06	1.02	11	1	1.4	1	10.0	W	43	SW	17	8	8	14	6.3
MARYLAND																															
Baltimore CO	14	- -	-	54	36	44.8	-3.9	78	13	17	29	0	11	--	--	1.48	-1.48	.61	7		-	-	- --	- -	---	---	--	--	--	--	---
Baltimore	146	1011.6	1016.4	53	33	43.1	2.5	77	13	13	29	0	16	32	70	1.35	1.61	.58	6	0	2.0	2	10.0	NW	52	NW	17	17	6	7	4.0
Frederick	294	------	------	51	30	40.6	4.8	76	14	14	29	0	20	--	-	1.59	-1.36	.63	10	0	4.6	3	----	---	---	---	--	--	--	--	---
MASSACHUSETTS																															
Blue Hill Obs.	629	987.9	1011.8	45	32	38.3	2.4	56	12+	17	29	0	14		74	8.42	4.22	5 06	13	0	5 2	4	15.9	W	44	WNW	17	8	9	13	6.3
Boston	15	1007.1	1011.8	47	36	41.9	-2.5	60	12	22	29	0	10	31	68	5.68	2.19	3.33	12	0	2.5	3	15.7	W	*46	W	17	5	12	13	6.6
Nantucket	43	1011.2	1011.6	49	38	43.7	.8	59	1	24	23+	0	10	37	77	5 09	1.37	1.28	14	0	1.2	1	14.3	WNW	46	NW	20	5	8	17	7.6
Pittsfield	1153	969.2	------	43	28	35.2	1 7	61	1	10	29	0	20	--	--	4.38	.40	1.14	13	0	18.5	7	----	---	---	---	--	--	--	--	---
MICHIGAN																															
Alpena CO	587	987.8	------	40	27	33 5	2.7	51	1+	4	28+	0	22	-		3.35	1.17	1.65	14	1	17.8	8	12.4	---	45	SW	17	2	2	26	8.4
Detroit	619	988.2	1014.6	45	31	37 7	2.4	63	13	8	28	0	18	31	76	2.38	.20	1.08	14	4	4.8	4	12.1	NW	49	WSW	16	2	4	24	8.7
Detroit (Willow Run)	722	985.4	1014.3	45	29	36.6	3 1	62	12+	7	28	0	22	30	76	3.47	1.27	1.86	12	3	7.7	5	13.5	W	*47	W	16	1	5	24	8.5
East Lansing CO	856	-- -	-- -	42	28	35 3	-2 6	62	12	6	28	0	21		-	3 78	1.48	1 60	19	3	9.4	5	6 3	---	24	SW	16	--	--	--	---
Escanaba CO	594	988.8	-- ---	38	25	31.6	-2.3	53	1	-3	28	0	25	--	--	2.10	-.10	74	12	1	13.2	9	11.7	---	38	SW	16	1	4	25	8.7
Grand Rapids	681	988.2	1013.8	42	28	35.3	-2.3	65	13	7	28	0	21	30	80	2.59	.06	.80	16	3	18.6	6	11.8	WNW	43	W	16	0	2	28	9.3
Marquette CO	677	983.7	------	37	25	30.7	3 2	52	1	0	28	0	25	-	75	3 23	.11	.86	18	0	18.6	9	9.7	--	36	SW	16	0	5	25	9.2
Muskegon	627	990.2	1013.8	42	30	35.8	-2.7	55	13+	7	28	0	20	30	77	4 43	1.79	.99	19	1	20.1	11	----	---	---	---	--	0	4	26	9.3
Sault Ste. Marie	721	988.8	1012.1	36	24	29.8	-1.7	50	1	8	30	0	25	27	85	2 98	-.28	.45	25	1	15.7	6	10.8	NW	36	WNW	20	0	3	27	9.4
MINNESOTA																															
Duluth	1409	970.9	1013.4	29	13	21.0	-6.0	43	11	-8	24+	0	30	17	81	1.97	.19	.59	20	0	22.4	11	15.2	WNW	47	W	20	4	5	21	8.2
Intern'l Falls	1179	971.2	1014.0	26	10	17.5	-6 5	38	5	-12	30	0	30	14	80	2.25	1.08	.45	22	0	28 6	17	13.3	W	---	---	--	3	1	26	8.7
Minneapolis	830	981.0	1015.8	33	19	25.6	7.4	51	5	2	27	0	29	19	77	1.04	.40	40	10	0	6.0	5	14.0	NW	36	W	16	5	6	19	7.5
Rochester	1017	977.0	1015.3	34	19	26.3	-6.2	53	5	2	28	0	29	20	76	.52	1.00	.25	7	0	4.3	3	11.7	WNW	---	---	--	3	7	20	7.8
St. Cloud	1034	975.6	1015.3	30	14	22.0	-7.4	49	4	-6	27+	0	30	16	76	1.26	-.11	.48	10	0	8.4	6	9.6	WNW	---	---	--	3	6	21	8.0
MISSISSIPPI																															
Jackson	305	1007.9	1020.0	66	41	53.4	-1.8	86	13	20	29	0	7	41	67	3.37	-.68	1.45	12	4	.0	0	8.7	S	30	NW	19	9	12	9	5.4
Meridian	294	1006.3	------	66	40	52.7	-1.4	84	13	21	30	0	8	--	--	4.38	.35	1.85	10	1	.0	0	----	---	---	---	--	12	9	9	4.7
Vicksburg CO	234	1010.5	------	64	45	54.6	-2.2	85	13	25	29	0	3	--	--	3.04	-1.57	1.24	10	2	.0	0	9.4	---	27	NW	16	11	10	9	4.9
MISSOURI																															
Columbia	778	988.2	1017.4	52	28	40.1	-3.1	76	13	10	28+	0	19	25	59	.21	-2.40	.11	4	1	.4	T	12.3	WNW	49	NW	16	14	8	8	4.4
Kansas City	741	982.4	1018.2	51	30	40.1	-4.2	73	20	12	30	0	19	23	52	.05	-2.12	.04	3	0	.8	1	12.4	NW	34	N	27	12	10	8	4.4
St. Joseph	809	- ---	- ---	48	24	36.0	-6 3	69	5	7	30	0	22	--	--	.15	-1.85	.07	4	0	1.6	1	12.5	--	--	---	--	11	10	9	4.7
St. Louis CO	465	997.0	------	53	33	43.0	3.6	82	13	11	28	0	18	--	--	2.34	-.38	1.02	10	6	.3	T	13.8	-	38	SW	22	13	10	7	4.6
St. Louis	552	997.0	1017.6	52	31	41 7	-3.3	82	13	11	28	0	19	28	62	1.54	-1.03	.80	7	4	T	T	10.7	WNW	---	---	--	14	9	7	4.6
Springfield	1265	969.5	1017.9	54	29	41.6	-2.9	80	13	10	28	0	19	27	66	.35	-2.40	.16	4	2	T	T	14.5	S	37	S	22+	15	9	6	4.1
MONTANA																															
Billings	3568	889.9	1018.7	34	15	24.1	-11.7	62	4	-14	15	0	25	14	71	.81	.13	.29	10	0	8.9	5	13.6	SW	39	NW	10	1	9	20	7.9
Glasgow	2277	941.1	1020.0	26	3	14 4	-14.4	67	4	-21	13+	0	29	7	76	.82	.30	.33	13	0	9.7	8	12.3	ESE	--	---	--	3	10	17	7.4
Great Falls	3664	886.9	1019.2	29	10	19.4	-15.8	60	3	-23	13	0	24	9	68	2.27	1.60	.63	12	0	22.1	9	14.3	SW	73	SW	3	1	5	24	8.6
Havre	2488	927.2	1021.0	24	3	13.7	-17.2	66	3	-26	17	0	29	6	71	.89	.41	.32	11	0	14.9	8	8.2	---	34	W	8	2	9	19	7.8
Helena	3893	872.0	1020.4	30	9	19.7	-12.0	64	3	-29	15	0	27	11	69	1.22	.58	.25	15	0	17.7	7	8.3	WNW	51	SW	4	2	3	25	8.6
Kalispell	2965	------	-----	30	16	22.7	-9.3	51	4	-14	16+	0	27	--	--	2.39	.84	.42	20	0	23.4	10	----	---	---	---	--	2	6	22	8.5
Miles City	2629	931.9	1019.9	31	7	19.0	-13.8	69	4	-23	13	0	28	10	--	.75	.26	.25	8	0	14.6	4	10.5	NW	35	NW	1	6	9	15	6.7
Missoula	3200	901.5	1019.8	32	17	24.3	-7.6	55	4+	-23	16	0	27	19	77	1.66	.55	.32	19	0	16.0	5	5.9	NW	38	W	10	2	1	27	9.2
NEBRASKA																															
Grand Island	1841	949.9	1018.0	45	20	32.1	5.5	75	4	-2	16	0	27	18	59	.08	-.90	.06	2	0	1.3	T	14.9	NNW	---	---	--	12	9	9	5.3
Lincoln CO	1166	------	------	45	24	34.3	-6.0	70	5	4	16+	0	20	--	--	.26	-1.15	.10	3	0	2.6	1	12.4	---	42	NW	5	11	7	12	5.4
Norfolk	1544	960.7	1018.4	41	16	28.5	-6.4	70	4	-8	30	0	30	15	55	.07	-.99	.04	3	0	1.2	1	----	---	---	---	--	8	7	15	6.2
North Omaha	1323	967.8	------	41	20	30.4	----	69	5	-2	30	0	24	--	--	.05	----	.02	4	0	.7	T	----	---	---	---	--	--	--	--	---
North Platte	2779	915.7	1018.1	43	16	29.3	-7.5	77	4	-5	16	0	29	18	69	.78	.23	.41	6	0	4.9	2	10.3	NW	40	N	5	11	5	14	6.0
Omaha	978	976.6	1018.0	43	22	32.6	-6.3	71	5	0	30	0	24	18	56	.04	-1.25	.03	3	0	.5	T	14.3	NW	43	N	5	10	9	11	5.6
Scottsbluff	3950	877.4	1017.3	43	17	30.2	-5.9	71	4	-5	15+	0	28	18	63	1.06	.49	.77	8	0	6.4	2	12.2	WNW	---	---	--	6	9	15	6.5
Valentine CO	2581	922.5	------	40	12	26.0	-9.3	72	4	-12	16	0	30	--	--	.06	-.58	.02	5	0	.3	T	13.0	---	42	NW	5+	11	5	14	5.7
NEVADA																															
Elko	5075	845.9	1020.5	45	16	30.3	-4.2	65	3	-11	15	0	30	22	69	.86	-.07	.22	9	0	13.5	8	4.2	WSW	*29	W	10	5	7	18	7.2
Ely	6257	808.7	1019.6	48	15	31.6	-3.6	65	3	-9	15+	0	29	18	58	.66	-.03	.42	5	0	5.8	3	10.7	---	45	SE	13	10	6	14	6.0
Las Vegas	2162	949.9	1015.4	67	40	53.1	.8	79	9+	28	16+	0	6	21	32	.03	-.19	.02	2	0	.0	0	8.7	W	*35	SSW	11	18	7	5	3.5
Reno	4397	862.9	1018.8	55	24	39.4	-.8	73	10	12	15	0	26	25	59	.21	-.43	.14	5	0	2.7	2	6.6	SSW	57	S	20	11	8	11	5.4
Winnemucca	4299	868.9	1019.9	49	19	34.1	-3.5	68	3	-5	15	0	28	24	65	.95	.11	.50	9	0	8.6	7	7.8	---	32	S	20	7	5	18	6.8
NEW HAMPSHIRE																															
Concord	339	1001.2	1012.2	43	29	36.2	-.5	60	13	17	23+	0	20	27	72	4.06	.49	1.74	11	0	3.5	2	7.0	NNW	29	W	18+	5	9	16	6.8
Mt. Washington	6262	795.0	------	24	11	17.4	-2.5	41	2	-11	29	0	30	--	90	4.46	-2.12	1.76	19	0	21.2	9	39.8	W	%133	W	30	0	7	23	8.6
NEW JERSEY																															
Atlantic City CO	8	1012.8	----	53	39	46.1	-2.0	76	14	17	29	0	5	--	--	2.50	-.82	1.28	8	0	T	T	16.1	---	42	E	10+	14	7	9	4.7

See footnotes at end of table.

ble 2—Continued

State and station	Elevation (ground)	Pressure		Temperature								No of days		Average dew point	Average relative humidity	Precipitation			No. of days		Snow, Sleet, Hail		Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min 32° F or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Fastest mile Speed	Fastest mile Direction	Fastest mile Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb.	Mb.	°F	°F	°F	°F.	°F.		°F				°F.	%	In.	In.	In.			In.	In.	M p h		M p h			0–3	4–7	8–10	0–10	%
EW JERSEY (Cont'd.)																																
ark	11	1013.2	1014.2	51	36	43.5	1.1	72	14	15	29	0	9	32	67	3.06	0.04	1.19	11	2	2.2	1	[illegible]	WNW	*33	W	[illegible]	13	5	12	7.1	
nton CO	56	1006.8	1013.8	51	36	43.7	-1.9	72	14	16	29	0	8			1.26	1.60	.59	9	0	4.0	1	9.7		35	NW	[illegible]	13	9	8	4.9	66
EW MEXICO																																
uquerque	5310	848.6	1015.8	58	32	45.0	1.1	71	1	20	6+	0	17	19	38	T	-.42	T	0	0	1	1	8.9	N	40	W	16	19	5	6	3.5	65
ayton	4969	843.6	1015.9	57	23	40.1	-2.3	79	20	1	16	0	25			.02	-.37	.02	1	0	.2	T						25	4	1	2.5	
on	6379	-	-	56	21	38.5	.1	74	20	5	8	0	26			.04	-.63	.04	1	0	T	T						17	7	6	3.7	
well	3612	893.7	1016.2	64	32	48.1	.2	82	1+	18	9+	0	18	22	38	.05	-.41	.05	1	0	T	T	10.0		56	SW	18	20	6	4	2.6	
EW YORK																																
any	277	1009.7	1013.5	45	30	37.4	1.6	59	1	11	29	0	17	30	75	3.14	.45	1.09	13	1	3.5	2	9.7	WNW	42	W	17	3	13	14	7.4	24
ghamton	1601	953.3	1013.4	41	28	34.5	2.7	65	2	4	29	0	23	28	76	2.33	-.52	.85	14	1	11.0	4	11.7	NW	54	W	17	2	5	23	8.3	20
falo	693	986.1	1014.3	46	31	38.7	1.2	69	16	6	29	0	18	31	77	4.20	1.11	1.86	17	1	26.0	16	11.1	WSW	64	SW	18	1	3	26	8.7	27
York CO	10	1002.3		50	37	43.8	2.5	69	14	27	29	0	7			4.18	1.09	1.39	11	2	T	T	14.5		5[illegible]	W	17	13	7	10	5.1	61
York	19	1012.5	1014.2	52	38	45.0	-1.8	66	14	17	29	0	7	33	64	4.50	1.51	1.25	11	2	.6	T	14.4	WNW	50	N	4	10	9	11	5.6	
hester	543	994.2	1013.8	45	31	37.7	-2.0	67	16	10	29	0	19	31	77	1.92	-.82	.56	12	2	10.1	4	11.0	WSW	56	W	17	2	5	23	8.5	27
enectady	217	- - -	--	45	32	38.7	1	58	1+	16	29	0	15			2.40	-.44	.70	11	1	3.2	3									5.5	
acuse	424	992.2	1014.9	45	32	38.1	2.8	66	2	13	29	0	15	30	73	[illegible]	-.44	.82	17	3	7.[illegible]	5	12.6	WNW	44	W	[illegible]	2	2	26	8.8	17
ORTH CAROLINA																																
eville	2203	- --	------	57	32	44.6	2.0	78	16	12	29	0	18			1.93	.16	.71	7	1	1.0	1	8.1		17	NW	19	15	8	7	4.1	70
rlotte	727	989.9	1018.4	63	38	50.4	.0	82	17	20	29	0	8	37	68	2.37	.25	1.05	6	0	T	0	8.1	SSW	40	NW	19	15	10	5	4.0	75
ensboro	891	986.1	1018.5	59	35	47.1	.9	80	16	16	29	0	12	31	67	1.61	-.90	.77	6	0	T	0	9.3	SW	*47	SW	16	16	8	6	3.8	73
teras CO	4	1016.5	1017.1	62	49	55.2	2.1	72	16	32	29	0	1	17	73	2.14	-.91	1.11	6	1	.0	0	13.1	SW	41	NW	20	16	8	6	3.6	79
eigh	433	1004.0	1017.8	61	36	48.4	2.0	82	16	18	29	0	10	36	66	2.34	[illegible]	1.00	7	0	.0	0	8.6	S	*27	WNW	19	19	4	7	3.7	69
mington	30	1017.0		[illegible]	42	53.7	2.1	83	16	21	30	0	5			3.29	.70	1.00	6	1	.0	0	10.1		50	N	1+	17	7	6	3.3	79
ston Salem	967	982.5	1018.1	60	36	48.1	.5	82	16	17	29	0	10	36	66	1.92	-.67	.78	6	0	T	0	9.1	WSW	*35	SW	16	17	9	4	3.7	
ORTH DAKOTA																																
marck	1650	956.3	1018.5	27	4	15.1	13.3	70	4	-1	30	0	27	6	75	1.19	.66	.39	10	0	14.7	6	11.5	WNW	45	NW	27	5	7	18	7.0	53
vils Lake CO	1471	960.4	--	23	5	14.3	11.8	58	4	-18	30	0	30			1.79	1.12	.63	16	0	19.8	13	10.9		53	NW	5	3	5	22	8.2	34
go	895	980.7	1016.7	28	10	18.9	-8.7	56	1	-12	30	0	27	12	71	.70	.17	.22	10	0	6.0	3	10.6	NW	52	NW	6	2	4	24	8.3	33
liston CO	1877	947.9	1019.0	25	5	15.0	13.3	66	4	-12	13+	0	28	6	61	.74	.16	.31	9	0	8.0	6	8.2		29	NW	9	4	6	20	7.4	47
HIO																																
on	1210	977.9	1016.8	46	28	37.0	3.4	69	13	6	28+	0	24	29	75	3.90	1.52	2.00	14	3	6.4	4	12.5	SW	-			3	6	21	7.9	-
cinnati Obs.	761	--- -		51	32	41.6	3.0	79	13	9	28	0	17			4.22	1.16	1.73	9	4	2.1	5	7.2		25	W	16		-			52
cinnati	869	984.6	1017.3	50	31	40.3	3.1	78	13	7	28	0	20	30	67	[illegible]	1.89	2.20	10	5	4.0	3	12.1	SSW	*35	NW	15	5	7	18	6.9	
eveland	787	987.4	1015.6	47	31	38.7	-3.0	70	16	8	28+	0	22	31	74	2.57	.21	1.27	15	5	8.7	3	11.6	WSW	52	W	16	3	4	23	8.3	23
umbus CO	724	- -	- --	48	31	39.7	-3.5	72	13	8	28	0	16		--	3.75	1.21	2.21	9	3	4.9	--		-	-						-	-
umbus	815	986.9	1017.5	50	30	39.9	-2.0	74	13	9	28	0	20	31	72	3.38	.52	1.92	11	4	5.1	4	10.6	WSW	38	W	16	4	8	18	7.3	40
ton	1002	979.8	1016.9	47	29	38.4	3.5	73	13	7	28	0	22	29	71	5.67	3.06	2.93	12	3	4.5	4	13.7	WNW	43	W	16	5	9	16	7.1	54
dusky CO	603	992.0	------	47	31	38.9	-3.3	69	13	7	28	0	19	-		5.32	1.05	1.62	10	5	5.2	4	9.9		42	W	16+	2	11	17	7.6	31
edo	676	989.2	1015.2	46	27	36.7		71	13	6	28	0	22	30	79	3.67		1.81	12	4	3.1	2	12.1	WSW	45	W	17	1	8	21	8.2	46
ngstown	1178	972.8	1016.3	46	28	37.0	-3.6	70	13	6	29	0	24	30	79	4.34	.85	2.67	17	4	9.1	6	12.2	WSW	*47	WSW	3	2	6	22	8.6	
KLAHOMA																																
ahoma City	1280	973.6	1018.2	59	31	44.9	4.1	70	12	15	16+	0	18	25	46	.14	-1.78	b.07	1	0	3	T	14.6	S	41	NW	2	17	8	5	3.4	65
sa	672	993.2	1018.0	59	33	46.1	3.5	80	15	17	30	0	13	28	51	.10	-2.33	.03	2	0	T	T	12.3	S	38	N	27	18	7	5	3.4	80
REGON																																
oria	8	1015.2	1016.1	49	37	42.9	4.2	65	7	15	14	0	6	39	85	11.64	4.28	2.36	24	1	2.2	2	9.5	E				3	2	25	8.5	
ns CO	4140	872.3	1018.1	43	22	32.6	3.9	64	3+	-17	15	0	25	24	71	1.76	.59	.80	12	0	17.9	10						2	9	19	8.0	
ene	361	1004.7	1018.6	50	36	43.1	2.2	67	9	14	15	0	7			6.69	1.00	1.75	21	0	6.0	5	7.6					0	5	25	9.1	
cham	4050	-	------	35	22	28.4	6.5	57	8	12	15	0	25			5.53	1.36	1.38	23	1	29.8	14						1	2	27	9.3	
ford	1312	971.6	1019.9	51	36	43.4	-.8	68	6	29	15	0	7	38	85	3.65	1.18	1.41	15	0	11.4	6	3.1	NW	*21	NNW	10	1	4	25	8.8	
dleton	1492	963.4	1018.6	43	27	34.9	6.2	66	9+	6	15	0	20	28	76	2.69	1.18	1.03	19	0	8.8	4	9.0	SE	*51	W	10	1	6	23	8.6	
tland	21	1012.2	1017.9	47	36	41.4	4.1	61	8+	13	15	0	8	36	82	7.34	2.12	1.98	25	0	8.2	5	9.8	ESE	46	SW	25	2	1	27	9.0	14
eburg	505	1000.0	1019.0	54	38	45.8	-	73	6	15	15	0	6		-	4.52	.91	1.40	20	0	5.4	3	4.2		25	S	16+	0	4	26	8.9	21
em	195	1010.2	1017.7	50	36	43.0	-2.4	66	9+	9	15	0	8	39	85	6.75	.79	1.83	22	0	5.6	4	10.0	S				2	4	24	8.7	
ton Summit CO	3836	- -	---	43	34	38.3	2.9	68	8	11	15	0	13		-	5.05	.51	2.11	20	0	19.1	9			-		-	2	6	22	8.4	
ENNSYLVANIA																																
entown	376	1001.1	1015.5	49	31	39.7	2.3	71	14	11	29	0	18	30	73	2.27	.80	.99	8	2	2.6	2	12.6	W				10	10	10	5.9	
risburg	335	1002.1	1016.1	49	33	40.8	3.2	72	14	13	29	0	11	26	63	1.78	-.95	.66	8	0	4.6	3	8.7	WNW	35	W	17	7	13	10	5.7	57
ladelphia CO	26	- --	-----	53	49	46.4	1.1	74	14	16	29	0	4			1.30	1.78	.59	5		-											
ladelphia	10	1010.8	1015.1	53	35	44.0	1.9	76	14	15	29	0	11	32	67	1.16	1.92	.57	6	0	2.9	1	10.3	WNW	50	NW	17	13	8	9	5.1	61
tsburgh CO	749	- --	--	50	31	41.7	2.9	71	13	12	29	0	13			2.90	.29	1.77	11		4.6											
tsburgh	1151	985.7	1016.7	47	31	38.9	2.1	71	13	9	29	0	21	30	72	2.89	.30	1.38	13	0	6.5	2	12.2	WSW	*37	WSW	17	1	6	23	8.4	52
ding CO	266	1003.1	1015.2	50	36	42.9	-2.5	74	14	15	29	0	8	-		1.75	1.30	.74	8	1	2.7	2	12.0	--	13	W	17	8	10	12	6.1	52
anton	940	980.9	1015.3	45	31	37.7	-3.0	67	2	9	29	0	18	30	73	2.63	-.58	1.13	12	2	4.5	2	7.0	WSW	40	W	16	5	5	20	7.5	32
ppingport CO	736	----	--	46	30	39.3		72	13	10	29	0	22	-	-	2.80	-	1.54	10	3	4.5	3	4.4		%42	W	16	-	-		8.8	-
liamsport	527	996.4	------	47	30	38.3	3.4	66	14	12	29	0	25	-	--	2.43	-.83	.93	12	0	6.1	3	-				-	5	9	16	7.1	
HODE ISLAND																																
ck Island	110	1007.8	1012.1	49	38	43.8	.5	58	1+	22	29	0	10		-	4.48	.95	1.83	14	1	2.5	1						1	4	12	7.1	
vidence	55	1006.5	1012.5	48	34	41.1	.5	60	12	21	29+	0	14	31	7[illegible]	5.60	1.86	2.92	11	1	3.6	3	[illegible]	WSW	*32	WNW	[illegible]	[illegible]	[illegible]	[illegible]	6.3	51
OUTH CAROLINA																																
rleston CO	9	- - --	- - -	67	49	58.4	.2	84	15	29	29	0	2			[illegible]	1.00	.73	4	[illegible]	.0	0	9.3		32	E	10	[illegible]	4	7	3.6	79
rleston	41	1017.3	1019.1	68	42	54.7	1.6	83	15	21	30	0	4	44	75	1.20	.85	.85	3	0	.0	0	11.3	SW							4.0	
umbia	217	1010.1	1018.5	67	39	52.6	1.3	84	15	19	30	0	8	40	73	2.13	.12	.98	5	0	.0	0	8.6	SW	*[illegible]	NNW	19	17	5	8	4.1	79
rence	146	1012.8	-----	66	40	52.8	.8	85	15	21	30	0	3			1.87	.41	1.00	5	0	0							17	5	8	3.8	
enville	1018	980.2	1018.0	62	39	50.3	1.0	80	15	17	29	0	4	34	60	2.73	-.31	.85	6	0	.0	0	8.6	SW	40	W	16+	16	7	7	4.0	75
rtanburg	801	----	------	62	39	50.4	-.8	80	15	29	29	0	7	-		3.03	.06	.86	7	0	.0	0	9.0		*35	SW	16					-
OUTH DAKOTA																																
on	1282	968.5	1017.6	34	11	22.5	-10.0	68	4	-11	30	0	29	13	70	.44	-.22	.15	7	0	5.4	3	15.3	NW	65	NW	5	4	10	16	6.9	52
id City	3165	899.8	1018.0	37	12	24.7	-10.6	72	4	-14	16	0	27	14	66	.36	-.19	.20	6	0	4.2	3	11.1	NNW	50	NW	15	8	7	15	6.2	58
ux Falls	1420	963.8	1017.3	36	13	24.3	7.9	68	5	-10	30	0	30	12	61	.30	.61	.14	5	0	3.6	3	14.4	NW	*35	NW	5+	6	9	15	6.7	
ENNESSEE																																
stol	1519	960.4	----	55	31	43.0	2.6	77	16	12	29	0	18		-	3.16	.60	.65	9	2	T	T						10	12	8	5.3	
ttanooga	670	992.1	1020.3	60	34	46.9	2.2	77	16	15	29	0	17	35	69	4.73	.70	1.33	11	1	0	0	6.3	S	29	SW	16	12	7	11	5.1	63
xville	950	984.0	1019.9	58	34	45.9	2.5	76	16	15	29+	0	15	35	69	3.30	.15	.71	9	2	T	0	6.6	WSW	36	SW	16	15	4	11	5.0	63
phis CO	271	--- -		60	41	50.5	.6	84	13	19	28	0	5			1.74	-2.37	.90	8		0	0										
phis	263	1004.9	1019.9	61	38	49.7	.9	85	13	20	29	0	13	38	62	3.52	1.04	1.10	7	5	T	T	11.5	S	38	N	27	10	12	8	4.8	65
hville	577	999.6	1019.9	57	35	46.2	2.1	78	15	15	30	0	16	36	69	3.78	.37	1.35	9	3	T	0	9.3	S	31	NW	2	10	11	9	5.0	60
Ridge CO	905	985.5	----	56	33	44.5	.9	74	16	14	30	0	15			4.67	.69	1.35	10	2	T	T	4.3		27	SW	16	12	5	13	5.5	
EXAS																																
lene	1759	955.6	1017.2	67	39	53.2	.5	86	5+	20	29	0	16	30	45	.20	.82	b.25	1	0	T	0	13.1	SSW	45	SW	22+	16	8	4	3.4	80
rillo	3590	888.6	1016.2	59	27	43.1	1.8	79	11+	11	16	0	20	17	41	.12	.66	.02	1	0	2	T	15.1	SW	49	NE	27	19	6	5	3.0	90

See footnotes at end of table

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet, Hail: Total	Snow, Sleet, Hail: Max. depth on ground	Average hourly speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	Clear	Partly cloudy	Cloudy	
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.		#		°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10
TEXAS (Cont'd.)																															
Austin	615	996.6	1018.5	70	48	59.2	0.0	88	2	28	29	0	3	41	56	1.40	-0.95	0.70	3	0	T	0	12.0	SSW	35	NE	27	12	7	11	4.9
Brownsville	16	1014.2	1016.6	76	60	68.2	.4	87	16	40	10	0	0	59	77	.55	-1.00	.27	4	0	0.0	0	13.7	SSE	38	NW	8	4	10	16	7.1
Corpus Christi	40	1016.3	1017.4	73	56	64.2	-.1	88	6	37	29	0	0	56	77	1.69	-.05	1.09	4	1	.0	0	12.1	SSE	34	N	8	6	9	15	6.9
Dallas	487	1000.0	1019.0	69	43	55.8	.0	87	14+	23	28+	0	8	36	52	.81	-1.62	b.88	2	1	T	0	12.4	S	40	NE	6	15	8	7	4.1
Del Rio	1091	983.1	1015.7	70	46	57.9	-2.3	90	2	27	29	1	1	41	58	1.28	.48	.95	3	0	T	T	8.6	---	30	N	2	12	9	9	4.8
El Paso	3920	886.9	1015.5	67	41	54.4	2.4	77	1+	27	9	0	4	24	33	.15	-.23	.15	1	0	.0	0	12.5	N	47	W	15	22	5	3	2.3
Fort Worth	544	998.3	1019.2	69	42	55.4	-.4	89	22	23	29	0	9	34	49	.59	-1.65	b.79	1	1	T	T	13.1	SSW	*43	N	27	15	6	9	4.1
Galveston CO	7	------	------	68	57	62.5	-1.1	80	2	35	29	0	0	--	--	.51	-3.33	.13	10	--	.0	0	14.8	---	38	NE	3	--	--	--	---
Galveston	5	1016.3	1018.6	69	56	62.5	-.9	81	1+	36	29	0	0	53	73	.68	3.51	.28	7	2	.0	0	21.0	S	-	---	--	10	8	12	5.8
Houston CO	41	1013.2	------	71	53	61.8	-.1	87	2	32	29	0	1	--	-	1.36	-2.59	.69	8	3	.0	0	11.1	---	34	NE	6	10	8	12	6.0
Houston	50	1015.9	1018.8	71	52	61.5	.6	87	2	32	29	0	1	49	68	1.06	-3.12	.39	11	2	.0	0	14.4	SSE	-	---	--	7	8	15	6.5
Laredo	500	1001.7	1016.9	74	55	64.5	-1.5	92	1	35	29	2	0	50	66	2.33	1.36	1.18	6	0	.0	0	9.8	SSE	*27	NE	2+	8	10	12	6.0
Lubbock	3243	903.8	1016.5	62	32	47.1	1.5	80	11	17	28	0	15	25	46	.10	-.53	.10	1	0	1.0	1	14.8	SW	*59	WSW	15	21	7	2	2.7
Midland	2854	917.4	1016.8	66	38	52.1	-.7	85	1	22	28	0	8	29	46	.20	-.47	.20	2	0	.4	T	9.0	SW	*32	NE	27	17	9	4	3.2
Port Arthur	16	1017.6	1019.1	69	50	59.7	.4	83	2+	30	29	0	1	51	75	3.12	-.44	2.31	8	3	.0	0	14.2	N	36	N	28	9	6	15	6.1
San Angelo	1903	949.9	1017.6	68	41	54.6	-1.8	88	1	21	29	0	7	32	48	.44	-.65	.24	2	0	1.5	1	11.6	SW	*40	NE	27	17	7	6	3.6
San Antonio	792	992.9	1017.9	70	50	59.8	.0	85	1+	26	29	0	1	43	59	1.57	.17	1.07	3	2	T	0	10.2	S	41	N	27	8	12	10	5.5
Victoria	110	1013.2	1017.9	72	53	62.4	-1.4	87	2+	31	29	0	1	50	66	1.65	-.58	.85	7	1	.0	0	11.3	---	%44	N	8	7	9	14	6.5
Waco	500	997.3	1018.6	70	45	57.2	-.6	91	1	26	29	1	4	38	54	1.13	-1.12	b1.45	3	0	T	0	11.2	S	--	---	--	12	9	9	4.8
Wichita Falls	1027	980.0	1017.9	65	35	50.1	-1.6	85	12+	18	28+	0	14	27	44	.23	-1.16	b.33	1	0	T	T	11.1	S	*35	N	27	17	10	3	3.0
UTAH																															
Milford	5028	844.2	1019.2	53	22	37.1	-.3	70	4	6	16	0	29	--	--	.47	-.07	.23	6	1	1.8	1	----	---	---	---	--	11	11	8	4.9
Salt Lake City	4220	868.3	1019.6	47	24	35.7	3.6	67	4	-14	16	0	25	27	66	2.24	.82	.71	10	1	15.8	8	8.3	SE	31	S	13	3	7	20	7.5
VERMONT																															
Burlington	398	997.7	1012.8	42	29	35.5	-.9	57	2	12	23	0	18	29	71	2.78	-.07	.75	15	1	5.5	3	9.9	S	38	W	17	1	4	25	8.8
VIRGINIA																															
Lynchburg	947	983.2	------	57	33	45.0	-2.3	81	16	15	29	0	16	--	-	1.51	-.86	.54	8	0	.4	T	8.1	---	29	NW	20	17	5	8	3.7
Norfolk	26	1015.8	1016.9	61	40	50.6	-.8	83	16	21	29	0	4	39	68	2.05	-.62	.72	6	1	.0	0	12.7	SSW	34	W	17	17	7	6	3.6
Richmond	162	1011.1	1017.3	59	34	46.4	-2.0	85	16	14	29	0	12	35	70	1.76	-.73	1.08	7	0	T	T	7.1	SW	26	NW	19	20	0	10	3.6
Roanoke	1174	975.2	1017.8	55	34	44.5	-2.4	79	16	15	29	0	12	29	58	1.88	-.93	.70	7	0	1.0	T	9.7	WSW	---	---	--	13	11	6	4.2
WASHINGTON																															
Olympia	190	1008.5	1016.2	46	33	39.1	-4.4	58	9	-1	15	0	9	33	80	12.18	5.41	2.71	23	0	10.0	8	8.9	SSW	*33	SSW	3	1	5	24	8.7
Seattle CO	14	------	------	46	37	41.3	-5.7	60	9	13	15	0	8	--	--	7.79	3.33	2.29	22	0	5.5	4	11.5	---	40	S	18	2	2	26	8.8
Seattle	14	1015.2	1016.2	--	--	----	---	--	--	--	-	--	--	34	78	-----	----	----	--	--	----	--	8.8	SSE	---	-	--	--	--	--	---
Seattle-Tacoma	379	1002.4	1016.3	44	33	38.9	-5.0	60	9	6	15	0	8	34	83	8.96	4.41	2.22	23	0	6.0	5	14.0	SW	*43	SW	9	2	4	24	8.5
Spokane	2357	947.2	1018.0	34	22	28.1	-7.6	55	4	-11	15	0	25	23	81	3.92	2.04	1.06	16	0	24.7	9	7.8	NE	35	SW	4	4	3	23	8.2
Stampede Pass CO	3958	875.7	1017.4	28	19	23.6	-8.0	50	9	-5	13+	0	27	--		18.20	4.94	2.87	24	0	87.9	67	----	---	---	- -	--	1	3	26	9.1
Tatoosh	101	1010.5	1013.8	45	38	41.3	-6.1	55	7	19	12	0	7	36	82	16.09	6.57	4.38	26	0	7.5	3	22.8	E	65	E	15	2	6	22	8.6
Walla Walla CO	949	982.1	1019.0	42	28	35.1	-7.4	67	9	1	15	0	18	--		3.16	1.30	1.09	17	0	12.0	5	5.4	---	27	W	11	1	6	23	8.7
Yakima	1061	978.3	1018.8	39	23	31.2	-6.9	70	9	-3	15	0	24	24	77	2.57	1.59	1.08	10	0	21.2	7	6.2	W	---	---	--	2	8	20	8.1
WEST VIRGINIA																															
Charleston	950	982.2	1018.2	54	32	42.8	-3.0	78	13+	14	29	0	20	30	64	1.50	-1.67	.51	11	1	.4	T	7.7	SW	*27	W	16	10	8	12	6.2
Elkins	1970	------	------	49	25	37.3	-3.5	74	13+	8	29	0	24	28	--	2.19	-.68	.68	13	3	12.3	6	7.1	WNW	*32	NW	19	5	9	16	7.2
Huntington CO	565	------	------	56	33	44.2	-2.5	81	13	15	28+	0	17	--	--	1.47	-1.32	.45	8	0	.6	1	----	---	--	---	--	--	--	--	---
Parkersburg CO	615	------	- - --	53	33	42.6	-2.4	77	13	13	28	0	17	--	--	1.47	-1.20	.71	10	3	2.4	2	6.7	---	26	NW	16	7	7	16	6.5
WISCONSIN																															
Green Bay	689	990.2	1013.5	39	22	30.5	-3.0	52	1	3	27+	0	24	23	73	1.04	-.90	.64	13	1	2.3	1	13.2	NW	67	W	16	3	9	18	7.6
La Crosse	652	989.2	1014.9	37	22	29.5	4.8	55	5	0	28	0	25	20	69	.62	-1.19	.28	9	1	4.8	4	12.8	NW	*35	W	16	3	6	21	8.2
Madison	857	978.0	1014.5	41	22	31.5	-3.8	59	5	-2	28	0	24	23	73	.57	-1.72	.31	9	1	3.1	2	12.1	W	49	SW	16	2	9	19	7.7
Milwaukee	675	988.8	1014.3	42	25	33.5	-3.8	56	11	-2	28	0	21	24	69	.87	-1.24	.50	9	2	2.4	1	17.2	WNW	72	W	16	5	8	17	6.9
WYOMING																															
Casper	5322	833.7	1016.3	37	15	26.0	-7.3	61	4	-12	15	0	27	14	61	1.19	.37	.54	8	1	16.7	5	16.2	SSW	*45	SSW	19	4	8	18	7.4
Cheyenne	6131	808.0	1016.2	41	19	30 3	-4.8	64	4	9	16	0	24	15	58	1.23	.53	.77	8	0	13.7	10	16.1	WNW	59	W	10	5	11	14	6.6
Lander	5563	832.4	1017.7	39	15	26.8	-3.2	62	4	-13	16	0	28	15	63	.78	-.09	.52	8	0	5.4	3	6.3	---	40	W	10	5	12	13	6.3
Sheridan	3942	882.2	1019.3	36	11	23.5	-9.6	69	4	-18	15	0	27	14	67	1.19	.26	.47	12	0	10.0	4	8.9	WNW	66	NW	10	4	9	17	7.4
PACIFIC AREA																															
Canton Island	9	1008.5	1009.0	87	77	81.6	-2.1	88	13+	74	20+	0	0	70	72	.15	-.12	.07	5	0	.0	0	----	---	---	---	--	19	10	1	3.4
Hilo	31	1013.9	1015.2	79	65	72.1	-.9	86	9	62	1+	0	0	66	84	15.62	3.23	2.73	21	1	.0	0	8.3	WSW	*36	SSE	9	2	6	22	8.1
Honolulu	7	1014.9	1015.4	81	69	74.9	-.8	84	7+	63	30	0	0	65	72	1.89	.10	1.03	8	1	.0	0	11.0	ENE	42	SE	10	9	5	16	6.4
Koror CO	94	1004.4	1008.1	88	75	81.6	.2	91	18	72	5	8	0	76	85	8.58	-3.26	1.41	25	3	.0	0	----	---	---	---	--	0	9	21	8.2
Lihue	115	1009.5	1014.8	80	67	73.3	-.3	84	6+	62	4+	0	0	67	82	18.45	14.21	11.20	18	4	.0	0	10.4	ENE	27	S	9+	6	7	17	6.8
Majuro	10	1007.8	1008.1	85	76	80.5	---	87	8+	73	2+	0	0	75	84	10.86	-----	1.92	22	0	.0	0	----	---	---	---	--	2	8	20	7.9
Ponape CO	112	1003.1	1008.3	87	73	80.3	-1.0	90	1+	70	1	4	0	76	87	20.48	6.01	6.98	28	4	.0	0	----	---	---	---	--	1	4	25	8.7
Truk (Moen Island)	8	1007.8	1008.5	86	76	80.9	.1	88	28	74	7+	0	0	77	86	13.20	2.10	2.10	27	4	.0	0	----	---	---	---	--	0	4	26	9.2
Wake Island	11	1013.2	1013.9	84	76	80.3	.4	86	9+	72	13	0	0	72	75	1.27	-1.90	.24	18	0	.0	0	17.8	ENE	---	---	--	9	19	2	4.6
Yap CO	53	1006.4	1008.4	88	76	81.7	-.1	91	8+	73	18	4	0	76	81	9.95	-.77	2.40	23	2	.0	0	----	---	---	---	--	0	0	30	9.9
WEST INDIES																															
San Juan CO	47	------	------	84	75	79.4	1.0	90	10	69	27	1	0	--	--	3.60	-2.77	1.40	16	0	----	--	----	---	---	---	--	--	--	--	---
San Juan, P.R.	9	1011.5	1013.5	85	73	79.0	---	89	10	66	27	0	0	70	77	4.61	----	2.10	17	2	.0	0	10.6	ENE	26	NE	23	9	13	8	5.4
ALASKA																															
Anchorage	92	1008.5	1013.7	17	2	9.4	-12.9	32	15	-16	23	0	30	-1	63	.59	-.41	.25	7	0	11.8	11	3.3	NNE	*20	NNE	7	6	8	16	6.8
Annette	110	1007.5	1011.7	37	27	31.7	-9.0	50	7	12	25	0	20	20	63	12.12	1.90	4.56	9	0	T	T	16.7	N	*50	SE	6	9	4	17	6.3
Barrow	22	1021.3	1022.2	-6	-18	-11.9	-12.6	25	2	-29	14+	0	30	-18	74	.07	-.20	.05	4	0	.7	4	10.0	NE	35	NW	3	c5	c2	c10	---
Bethel	10	1012.5	1014.1	21	8	14.7	-2.3	37	11	-10	18	0	29	10	81	.81	-.16	.41	10	0	6.7	5	11.0	NNE	*28	NNE	6	12	2	16	6.0
Cold Bay	90	1005.1	1009.3	39	31	35.0	----	47	10+	20	17	0	18	32	86	2.64	----	.82	14	0	.3	1	13.8	ESE	*35	ESE	22	1	3	26	9.2
Cordova	40	------	--- --	32	13	22.6	-8.5	45	7	-3	10	0	28	--	--	1.46	-9.09	.75	11	0	8.5	5	----	---	---	---	--	11	4	15	5.8
Fairbanks	436	1001.4	1020.1	-2	-17	-9.8	-12.9	15	13+	-32	23+	0	30	-16	75	.21	-.42	.08	7	0	6.1	9	2.3	N	*17	W	9	6	9	15	6.6
Juneau	15	1012.9	1013.9	29	14	21.8	-11.3	49	7	0	21+	0	28	12	66	2.65	-3.27	1.29	11	0	7.7	3	7.7	ESE	29	SE	7+	11	5	14	5.8
King Salmon	44	1008.8	1011.3	26	11	18.5	----	40	11+	-9	9	0	28	10	70	.85	----	.44	4	0	T	2	12.3	N	*35	E	27	9	8	13	5.7
Kotzebue	10	1018.6	1019.1	5	-8	-1.4	-8.9	23	3	-23	17	0	30	-6	78	.22	-.21	.11	8	0	7.3	12	16.2	ESE	*41	ENE	11	8	6	16	6.6
McGrath	334	1004.7	1018.6	2	-16	-7.0	-12.5	34	12	-36	23	0	30	-14	72	1.05	-.04	.50	9	0	10.8	14	1.2	N	*13	SSW	12	13	3	14	5.6
Nome	13	1015.9	1016.7	17	1	8.9	-7.9	33	12	-22	30	0	30	5	78	.77	-.37	.45	10	0	7.1	10	9.3	N	40	E	10	9	5	16	6.0
Northway	1713	953.6	1021.7	-9	-25	-16.9	-14.7	9	4	-46	23	0	30	--	--	.11	-.25	.07	5	0	4.9	10	----	---	---	---	--	7	8	15	6.6
St. Paul Island	22	1010.5	1011.7	36	31	33.8	.0	42	11	23	16+	0	17	31	88	1.68	-.91	.47	14	0	3.7	1	----	---	---	---	--	0	1	29	9.5
Yakutat	28	1009.5	1010.6	34	18	25.6	-8.1	46	7	0	24	0	28	19	78	4.68	-10.78	2.54	15	0	11.9	6	8.0	E	*31	E	22	8	3	19	6.7

Data from airport unless otherwise specified. CO indicates data from city office.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument

+ And also on a later date or dates.

% Peak gust.

# Number of days Maximum 70° or above for Alaskan stations.

a Maximum hourly average.

b November 30 - December 1

c Sun below horizon after November 17th.

HEATING DEGREE DAYS

able 3

(Base 65°F.)

NOVEMBER 1955

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
rmingham	450	635	532
bile	278	352	247
ntgomery	354	486	373
ARIZONA			
agstaff	857	1683	1832
oenix (CO)	151	151	195
oenix	181	182	245
escott	559	728	877
cson	198	198	246
nslow	612	763	957
ma	96	96	105
ARKANSAS			
. Smith	507	652	575
ttle Rock	459	583	525
xarkana	395	493	386
CALIFORNIA			
kersfield	331	361	314
shop	581	845	872
ue Canyon	700	1245	1184
rbank	185	236	256
reka (CO)	451	1778	1525
esno	426	480	431
s Angeles (CO)	144	208	198
s Angeles	167	274	396
. Shasta (CO)	798	1466	1387
kland	354	894	730
d Bluff	395	445	378
cramento (CO)	361	419	413
cramento	397	480	477
ndberg (CO)	497	726	702
n Diego	154	209	241
n Francisco (CO)	273	1132	841
n Francisco	325	963	873
n Jose	320	502	411
nta Maria	318	971	722
COLORADO			
amosa	1040	2030	2207
lorado Springs	886	1390	1352
nver	858	1322	1332
and Junction	888	1200	1161
eblo	804	1180	1228
CONNECTICUT			
idgeport	657	947	1045
rtford	754	1245	1198
w Haven	693	1076	1137
DELAWARE			
lmington	645	916	914
DIST. OF COLUMBIA			
shington (CO)	573	755	773
shington	578	775	793
FLORIDA			
alachicola (CO)	164	192	171
ytona Beach	87	108	83
rt Myers	32	32	25
cksonville (CO)	136	158	140
cksonville	154	180	164
y West (CO)	0	0	0
ami (CO)	10	10	5
ami	7	7	8
ami Beach	5	5	0
lando	62	73	61
nsacola (CO)	226	282	195
llahassee	240	318	240
mpa	63	69	60
st Palm Beach	12	12	7
GEORGIA			
hens	443	610	495
lanta	433	571	511
gusta	396	534	341
lumbus	370	522	404
con	345	460	343
me	512	751	583
vannah	283	370	263
IDAHO			
ise	875	1474	1286
wiston	932	1558	1286
catello	960	1692	1543
ILLINOIS			
iro (CO)	564	750	681
icago (CO)	811	1109	
icago	864	1207	1205
icago University	846	1180	
line	914	1341	1253
oria	874	1246	1195
ringfield	806	1151	1127
INDIANA			
ansville	682	948	844
. Wayne	861	1261	1260
dianapolis	820	1171	1090
uth Bend	877	1309	1289
IOWA			
rlington	919	1314	1184
s Moines	1008	1426	1269
buque	1015	1548	1511
okuk (CO)	805	1114	
IOWA (Cont'd.)			
Sioux City	1078	1515	1443
KANSAS			
Concordia (CO)	819	1115	1019
Dodge City	765	1018	971
Goodland	901	1355	1333
Topeka (CO)	771	1010	914
Topeka	791	1058	1010
Wichita	716	931	848
KENTUCKY			
Lexington	696	964	951
Louisville	653	887	862
Pikeville (CO)	554	735	
LOUISIANA			
Baton Rouge	251	318	242
Lake Charles	229	259	240
New Orleans (CO)	189	206	146
New Orleans	207	257	176
Shreveport	351	430	358
MAINE			
Caribou	1022	2185	2356
Greenville (CO)	1010	2050	
Portland	861	1655	1610
MARYLAND			
Baltimore (CO)	600	791	725
Baltimore	648	906	910
Frederick	726	1104	911
MASSACHUSETTS			
Blue Hill Obs.	800	1373	
Boston	685	1082	1017
Nantucket	634	1083	1154
Pittsfield	887	1640	1687
MICHIGAN			
Alpena (CO)	942	1623	1744
Detroit	811	1197	1232
Detroit (Willow Run)	846	1266	1258
East Lansing (CO)	884	1325	
Escanaba (CO)	995	1708	1892
Grand Rapids (CO)	847	1251	1275
Grand Rapids	886	1376	1471
Marquette (CO)	1026	1813	1868
Muskegon	868	1367	1483
S. Ste. Marie	1049	1946	2177
MINNESOTA			
Duluth (CO)	1273	2213	2140
Duluth	1314	2289	2236
Internat. Falls	1419	2521	2490
Minneapolis	1173	1734	1601
Rochester	1154	1816	1718
St. Cloud	1285	2051	1948
MISSISSIPPI			
Jackson	385	520	379
Meridian	398	548	428
Vicksburg (CO)	353	434	319
MISSOURI			
Columbia	742	1012	984
Kansas City	740	940	905
St. Joseph	863	1167	1000
St. Louis CO	650	868	810
St. Louis	692	931	878
Springfield	695	948	933
MONTANA			
Billings	1223	1853	1595
Glasgow (CO)	1516	2293	1948
Great Falls	1364	2204	1765
Havre (CO)	1539	2426	1915
Helena	1355	2317	2038
Kalispell	1264	2469	2085
Miles City	1381	2006	1695
Missoula	1217	2264	1987
NEBRASKA			
Grand Island	980	1414	1281
Lincoln (CO)	914	1246	1137
Norfolk	1087	1581	1464
North Platte	1063	1652	1409
Omaha	964	1334	1207
Scottsbluff	1038	1630	1460
Valentine (CO)	1162	1754	1518
NEVADA			
Elko	1034	1895	1724
Ely	994	1867	1749
Las Vegas	350	367	405
Reno	762	1458	1440
Tonopah	763	1194	1246
Winnemucca	920	1693	1527
NEW HAMPSHIRE			
Concord	857	1592	1636
Mt. Washington Obs.	1422	4003	
NEW JERSEY			
Atlantic City (CO)	563	745	766
Newark	639	891	951
Trenton (CO)	634	893	922
NEW MEXICO			
Albuquerque	590	730	858
Clayton	742	1058	1064
Roswell	500	634	665
NEW YORK			
Albany	821	1394	1386
Binghamton	906	1538	1623
Buffalo	783	1261	1354
New York (CO)	627	839	863
New York	591	758	824
Rochester	812	1347	1375
Schenectady	783	1270	
Syracuse	790	1278	1256
NORTH CAROLINA			
Asheville (CO)	605	888	864
Asheville	656	1004	
Charlotte	442	598	592
Greensboro	538	780	741
Hatteras (CO)	287	336	307
Raleigh	500	696	603
Wilmington	349	453	361
Winston-Salem	510	702	702
NORTH DAKOTA			
Bismarck	1494	2263	1989
Devils Lake (CO)	1520	2470	2235
Fargo	1376	2154	1989
Grand Forks	1447	2358	
Pembina	1407	2303	
Williston (CO)	1497	2331	2038
OHIO			
Akron	833	1305	1216
Cincinnati (CO)	648	860	831
Cincinnati	739	1038	1026
Cleveland	785	1158	1124
Columbus	748	1079	1107
Dayton	793	1136	1096
Sandusky (CO)	778	1104	1077
Toledo	843	1285	1257
Youngstown	830	1339	1189
OKLAHOMA			
Oklahoma City	595	751	648
Tulsa	560	689	632
OREGON			
Astoria	658	1710	1270
Burns (CO)	962	1812	1673
Eugene	650	1401	1183
Meacham	1092	2333	1992
Medford	642	1240	1027
Pendleton	895	1467	1174
Portland (CO)	656	1137	926
Portland	701	1333	1067
Roseburg	569	1207	
Salem	652	1333	1071
Sexton Summit (CO)	792	1827	1496
PENNSYLVANIA			
Allentown	750	1150	1154
Harrisburg	718	1042	1007
Philadelphia (CO)	551	723	768
Philadelphia	626	858	889
Pittsburgh (CO)	693	998	966
Pittsburgh	775	1197	1211
Reading (CO)	657	926	935
Scranton (CO)	813	1286	1215
Williamsport	793	1238	1193
RHODE ISLAND			
Block Island	629	966	1036
Providence	711	1164	1186
SOUTH CAROLINA			
Charleston (CO)	225	267	248
Charleston	323	427	322
Columbia	380	511	420
Florence	381	487	441
Greenville	442	606	552
Spartanburg	436	594	557
SOUTH DAKOTA			
Huron	1269	1889	1622
Pierre	1268	1832	
Rapid City	1203	1802	1640
Sioux Falls	1212	1797	1648
TENNESSEE			
Bristol	654	929	873
Chattanooga	536	766	670
Knoxville	567	793	710
Memphis	487	645	575
Nashville	574	788	647
TEXAS			
Abilene	374	450	453
Amarillo	641	853	871
Austin	252	276	244
Brownsville	72	72	59
Corpus Christi	130	131	113
Dallas	347	401	352
Del Rio	236	257	214
El Paso	317	351	460
Ft. Worth	356	411	357
Galveston (CO)	148	152	131
Galveston	150	159	132
TEXAS (Cont'd.)			
Houston (CO)	190	202	162
Houston	196	217	188
Laredo	132	132	91
Lubbock	528	692	688
Midland	383	457	
Port Arthur	237	274	238
San Angelo	341	404	352
San Antonio	224	252	226
Victoria	172	185	131
Waco	306	361	295
Wichita Falls	456	542	524
UTAH			
Milford	832	1376	1404
Salt Lake City	873	1369	1240
VERMONT			
Burlington	878	1579	1617
VIRGINIA			
Lynchburg	595	859	816
Norfolk	433	555	569
Richmond	555	750	741
Roanoke	606	855	826
WASHINGTON			
Olympia	770	1784	1460
Seattle (CO)	708	1411	1097
Seattle-Tacoma	776	1742	1382
Spokane	1101	1994	1637
Stampede Pass (CO)	1235	3240	2628
Tatoosh Island (CO)	706	2113	1832
Walla Walla (CO)	891	1360	1076
Yakima	1008	1770	1410
WEST VIRGINIA			
Charleston	661	928	886
Elkins	825	1311	1300
Huntington (CO)	620	852	794
Parkersburg (CO)	665	951	928
WISCONSIN			
Green Bay	1028	1713	1733
La Crosse	1057	1591	1551
Madison (CO)	974	1490	1460
Madison	998	1547	1544
Milwaukee	939	1419	1445
WYOMING			
Casper	1167	1800	1796
Cheyenne	1035	1739	1787
Lander	1138	1840	1956
Sheridan	1238	1938	1842
ALASKA			
Anchorage	1664	3796	3220
Annette	992	2622	2126
Barrow	2314	7037	6055
Bethel	1506	4041	3767
Cold Bay	897	3297	
Cordova	1264	3465	3000
Fairbanks	2247	4655	4077
Juneau	1289	4452	2807
Kotzebue	1993	4879	4500
McGrath	2163	4785	4137
Nome	1678	4552	4191
Northway	2466	5236	4489
St. Paul	929	3729	3449
Yakutat	1176	3282	2918

Data from airport unless otherwise specified.
CO indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4 November 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
	1									Minor storm reported near Midway, Ky.
Harrison County, Ky.	2	6 a.m.					$10,000	$2,000	Electrical	Lightning struck and burned barn. Tobacco, corn and farm implements destroyed.
Dabney, Clinton Mountain, and north of Shirley, Van Buren County, Ark.	2	11-11:45 a.m.	30	40-100	0	5	15,000	0	Tornado, rain, and electrical	Tornado moved east-northeastward. Path visible for at least 10 miles, mostly through sparsely settled wooded area. Struck Dabney at 11 a.m., where 2 persons injured and $5,000 damage; struc Clinton Mountain (5 miles north of Clinton) at 11:45 a.m., where 3 persons injured and $10,000 damage. Funnel cloud observed by several perso
Illinois	2	A.m.-afternoon			8		15,000		Wind, hail, electrical, and snow	Scattered thunderstorms in early hours in southe Illinois, including some hail and lightning damage, particularly at Fairfield. High winds general in State in afternoon with many scattered areas receiving damage, mostly power interrupti from trees toppling on powerlines. Affected are included Minonk, Dana, Benson, Charleston, Matt and several Chicago suburbs. This storm brought first snow of season to northern Illinois, producing hazardous driving conditions. 8 traffic deaths attributed to icy-street conditions in Chicago area.
Collinwood, Wayne County, Tenn.	2	4 p.m.				3	50,000	Slight	Wind	Destroyed wooden church. Several roofs blown of or severely damaged. 2 women and a child recei lacerations and bruises on their legs and bodie
Washington, northwestern portion	2-5						Few thousand	Several thousand	Rain	5 to 12 inches of rain in 3 days or less time ove Olympic Peninsula and on west slope of Cascades in Whatcom, Skagit, and Snohomish Counties cause all rivers to rise above flood stage. A large number of bridges washed out and highways damage by mud slides. Residence wrecked by landslide o Olympic Peninsula. Coast Guard and Army amphibi equipment used to rescue several families on Olympic Peninsula. Few head of livestock lost. Greatest damage to fields caused by sediment deposits and water standing on strawberry and othe crops.
Great Falls to Cut Bank, Mont.	3	10 a.m.-6:30 p.m.	100	*30		1	10,000	3,000	Wind	Storm moved northeastward.
Lower Michigan, central and northern portions	3	All day				2	150,000		Wind, snow, and rain	High winds combined with snow to damage trees and utility lines in central and northern Lower Michigan. Heaviest damage in northeastern part of Lower Michigan where snowfall up to 1 foot reported. Electric services disrupted for more th a day in some northeastern localities. 300-foot radio tower toppled at Rogers City. Several lak freighters were in trouble on Lake Huron, but al made port. Thousands of trees reported damaged northeastern counties.
Jackson County, Fla.	4				0	0		0	Tornado	1 home destroyed, 7 houses and 3 other buildings damaged.
Northwestern Massachusetts and southern Vermont	5	A.m.			1		25,000		Snow	Unusually heavy early-season snowstorm. Up to 10 inches in parts of Berkshire County, Mass., and Windham County, Vt. At North Adams, Mass., girl killed when a powerline fell across car in which she was riding. Town of Richmond, Mass., isolat when telephone and electric wires pulled to grou by falling limbs. In Windham County, Vt., 29 telephone lines knocked out by storm.
	9									Minor storm reported at Hamilton, Mont.
Florida, central and northeastern portions	10							Minor	Wind, rain, and electrical	Storm associated with low-pressure system that moved northeastward from Gulf of Mexico with its center passing approximately along Cross City-Fernandina Beach line. Peak gust wind speeds we 52 m.p.h., at Jacksonville , 46 m.p.h., at Tampa and 50 m.p.h., at St. Petersburg. Rainfall 2 to inches in belt 50 miles wide centered on Tarpon Springs-Daytona Beach line. Wire lines and TV antennas damaged by wind in scattered localities
North Carolina, eastern two-thirds	10	Day-early evening			4		10,000		Rain and wind	Low pressure storm moved rapidly northeastward along coast, causing low clouds, wind, and rain over considerable area. 3 persons killed in cra of light aircraft near Norlina, Warren County, a man drowned while duck hunting in lower Neuse River.
New Hampshire and Vermont, southern portions	11	A.m.					10,000		Snow	3- to 5-inch snowstorm over this area. Heaviest damage in southern New Hampshire where telephone and powerlines downed from Portsmouth to Keene. Emergency repair crews called out at daybreak. Many Veterans Day parades and some football game called off.

See footnote at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
upert to Pocatello, Idaho	11	1-3 p.m.					Considerable		Wind and dust	Reduced visibility resulted in numerous automobile and truck collisions along highway between Rupert and Pocatello, but no injuries reported.
andpoint, Bonner County, Idaho	11	Night					Considerable		Wind	Principal damage at City waterfront where large boatshed broke loose from moorings and drifted ashore, 2 cruisers sank, and barge carrying piledriver capsized.
analei-Kilauea area, Island of Kauai, T. H.	11-12						$75,000	$25,000	Rain	Heaviest 24-hour rainfall of record in area. Greatest property damage was to plantation irrigation facilities, mill equipment, and roads.
ashington	11-17		200	*200	Several		Several thousand	See remarks	Wind, freeze, and snow	Unusually cold air mass, driven by strong, northerly winds, began moving into State during early morning of 11th and spreading over entire State before following morning. Hunter killed in northwestern Yakima County when large tree fell on trailer during early morning of 11th. Several other deaths resulted from car accidents on ice- and snow-covered highways and from over exhaustion as result of moderate to heavy snowfall following extremely cold weather. Falling limbs damaged power and communication lines. Major property damage generally confined to waterfront installations along coast, Puget Sound, and other inland waterways. High winds broke up log booms, driving logs into docks, boats, bulkheads, and other installations. Wind speeds of 60 to 80 m.p.h., reported in vicinity of Bellingham. Strong northwest winds rather unusual over inland waters at this season. New minimum temperature records established for so early in season over entire State. Maximum temperatures remained below freezing for 4 days or longer. As minimum temperatures had remained above freezing in many areas prior to storm and little if any frost had occurred, growers were unprepared for the sudden drop and severe damage to crops resulted. Temperatures increased to near normal after 15th, followed by unusually heavy snowfall in higher elevations and over east on 17th. Greatest crop damage occurred in west, estimated as follows: In Whatcom, Skagit, Snohomish, King, Pierce, and Kitsap Counties, $5,010,000 to strawberries, $2,650,000 to raspberries, and $320,000 to blackberries; in Skamania, Klickitat, Clark, Cowlitz, and Wahkiakum Counties, $363,900 to strawberries, $301,800 to raspberries, $22,000 to blueberries, and $159,300 to trail berries; in Lewis, Thurston, Grays Harbor, and Pacific Counties, $723,600 to strawberries, $168,100 to raspberries, $58,500 to blueberries, and $27,900 to trail berries. Storm moved southeastward.
regon, entire State	11-18				2	Several	100,000-300,000	Several million	Cold and snow	Mother and small child froze to death or died of exposure in east; many other deaths indirectly due to storm (i.e. heart attacks while shoveling snow, or putting on tire chains, etc.).Extremely unseasonably low temperatures which began on 11th, continued to get progressively lower until 15th when minima between 6° and 15° in west and -12° to -17° in valleys of east. New record lows established for this early in fall at almost every recording station. This cold spell finally ended by snowstorm that began on afternoon of 17th and continued into 18th. Snow depths 1 to 6 inches in valleys and much heavier in mountains. As snow changed to rain on 18th, light to moderate icing developed in northwest and several points in central portion, but ice was gone in a few hours and snow practically so in a couple of days. No preceding low temperature or frost to harden trees and shrubs, as a result, considerable damage to orchards and nursery stock. Holly crop suffered a 50 to 75 percent loss of this year's crop. Considerable damage apparent to fruit and nut trees, cane, and strawberries, although full extent not determined. Several thousand boxes of apples that had been picked but not hauled in from orchards were frozen. Much of unharvested portion of filbert and walnut crop lost. Several thousand acres of fall vegetables (broccoli, carrots, cabbage, and cauliflower) grown for fresh vegetable market nearly a total loss. Apparently very light damage to Columbia Basin grain. Snow and icing conditions that followed cold spell created extremely hazardous traffic conditions in many areas for 12- to 24-hour period. Mountain highways impassable until cleared by snow plows. A number of power outages and over a thousand loggers idled for several days. Total damage to crops will not be known before next summer, but estimated at several million dollars for State.
outh Dakota	12-15				7				Ice and snow	Intermittent freezing rain, drizzle, and snow glazed hgihways, indirectly causing 7 deaths.

See footnote at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Western Wayne and southern Macomb Counties, Mich.	13	8-10 p.m.					$15,000		Hail, rain, and electrical	Storm began in western Wayne County and traveled northeastward to southern Macomb County, affecting northern and western suburbs of Detroit and northwestern corner of Detroit. Hail up to 4 inches in diameter damaged 2 greenhouses and dented many cars.
Clay City, Powell County, Ky.	13	P.m					3,000		Hail and wind	Many business houses and residences damaged. Hail estimated to be as large as hens' eggs. Also some minor damage by wind.
	13									Minor storm also reported at Tuskegee and Auburn, Ala.
California	13-14						75,000		Wind, rain, and snow	Storm center moved from Gulf of Alaska to norther California and inland. This storm caused first substantial precipitation of season in most of State, much below-normal temperatures, high wind in much of State, and early heavy snows in Sierr Winds reached a fastest mile of 44 m.p.h., at Sacramento and 35 m.p.h., at San Francisco International Airport, breaking tree limbs and powerli in Sacramento and San Francisco Bay area. Rain also backed up sewers and caused local flooding streets in San Francisco and San Rafael. In San Pablo Bay winds and waves swamped boats and tore apart duck blinds, stranding several duck hunter small craft and barges set adrift by gusts. Snow closed Calistoga-Middletown Highway for several hours. At Big Bear high winds felled trees and interrupted telephone service. Highway 399 clos by snow from western Kern County through Cuyama Valley to Ventura. Wind-whipped waves swamped 8 foot boat NEW SATURNIA off Laguna Beach.
Maysville, Mason County, Ky.	14	2:30 a.m.					7,000	$3,000	Electrical and rain	Tobacco and feed barn filled with tobacco, hay, a farm equipment destroyed after being struck by lightning.
Luzerne County, Pa.	14	A.m.				1	20,000		Electrical	Thunderstorms associated with squall line. Dairy barn burned when struck by lightning, destroying winter supply of hay and grain and 1 calf; estimated damage $20,000. At another nearby barn, 2 cattle electrocuted when lightning struck. Man injured in Dallas when lightning struck electric blanket on bed he occupied. Storm moved eastwar
Ingram Mills to Warsaw, De Soto and Marshall Counties, Miss.	14	3-3:30 p.m.	4	*2			19,000	1,000	Wind, rain, and hail	Major damage at Ingram Mills with some damage at Warsaw; hail covered ground 2 to 4 inches deep in some parts of Ingram Mills. Storm moved east-northeastward.
	14									Minor storm also reported in Waterbury area, Conn.
Salem (1 mile southeast of), Dent County, Mo.	15	3-3:30 p.m.	3	1,500			2,500		Hail, wind, and rain	Largest stones 2-1/2 inches in diameter. Roofs and windows hardest hit. 1 tree blown down. Stor moved northeastward.
Cleburne and Independence Counties, Ark.	15	3:17-4 p.m.	36	100-150	1	4	280,000		Tornado, wind, rain, hail, and electrical	Funnel cloud observed by many persons. Struck Heber Springs at 3:17 p.m., where 1 person injured and $150,000 property damage. Several places in Floral area destroyed where tornado struck at 3:30 p.m., with 1 person injured and $20,000 property loss. Several places in Hutchinson area destroyed, with 1 death, 2 injuries, and several thousand dollars property loss. Destruction at Huff and near Rosie heavy, and property losses amounted to about $60,000. At Magness where tornado struck at 4 p.m., property losses to 20 homes, church, feed mill, and other property amounted to $40,000. Tornado last observed in Wycough Township, north of Newark, where 1 home destroyed, 3 houses and 1 church damaged. America Red Cross reported: Cleburne County, 7 homes destroyed and 107 damaged; 4 other buildings destroyed and 40 damaged. Independence County, 22 homes destroyed and 29 damaged, 18 other buildings destroyed and 22 damaged.
Casa, Perry County, Ark.	15	3:20 p.m.	1 1/2	75	0	0	50,000	500	Tornado	Tornado moved northeastward. American Red Cross reported 2 homes destroyed and 13 damaged; also, 2 other buildings destroyed and 3 damaged. Funnel observed to touch ground, then lift 5 times as it moved across town of Casa. Brick building in Casa appeared to show explosive action. Weather Bureau Meteorologists, hunting in Ouachita National Forest, about 25 miles southwest of Casa, reporte hearing roaring sound from clouds sometime betwee 3 and 3:30 p.m. It sounded like an airplane in distress making a large sweep. There was very little thunder, with infrequent cloud to cloud an cloud to ground lightning to south and southwest. Fresh winds observed, but no high winds or wind damage reported.

See footnote at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Heber Springs (4 miles southwest of), Cleburne County, Ark.	15	5 p.m.	Short	Narrow	0	0	$10,000		Tornado and wind	Tree blown on automobile, then tree picked up and blown away. Barn blown over.
Alicia, Lawrence County, Ark.	15	6:05 p.m.	4		0	9	60,000	$0	Tornado and rain	Tornado moved northeastward. American Red Cross reported 9 homes destroyed and 6 damaged; 12 other buildings destroyed and 8 damaged.
Gibson and Fagus (near), Dunklin County, Mo.	15	Late afternoon-evening					12,000		Electrical, wind, and rain	1 home struck by lightning burned to ground. Several barns damaged by wind.
Evansville area, Vanderburgh County, Ind.	15	7:20 p.m.	1-2	50	0	9	150,000-200,000	0	Tornado, wind, rain, hail, and electrical	Tornado moved northeastward. 5 homes demolished and several others severely damaged. Witnesses said storm sounded like the roar of approaching airplanes, although in darkness no funnel visible. 1 house twisted from its foundation. Woman heard roar, felt house begin to shake, and was attempting to open door, although it resisted her effects to open it, when roof was lifted off building and carried away. 2 small children swept from their chairs, rolled up in living room rug, and lodged against stone planter box which protected them as house was blown away. Heavy window air conditioner blown into yard. Metal carport picked up and later found more than a mile away. Post driven through storm door and then upward and out through roof of house. 70 homes damaged in Evansville.
Elkins and Goshen (near), Washington County, Ark.	15	7:30 p.m.	15	220	0	1	10,000	0	Tornado, rain, hail, and electrical	Tornado moved northeastward through rural area north of Elkins and south of Goshen.
Clinton and Boone Counties, Ind.	15	7:45 p.m.			0	0	75,000	1,000	Tornado (suspected) and wind	Storm damaged 4 homes and destroyed 2 barns in Kirklin, Terhune, and Elizaville areas; trees and wires downed.
ynn (5 miles west of), Randolph County, Ind.	15	7:45 p.m.	20	400	0	7	35,000	1,000	Tornado, wind, rain, and electrical	Tornado moved northeastward. Home demolished; storm tore building apart, stripped clothing from young child, and injured all occupants of home. Passing motorist saw funnel-shaped cloud, saw house intact and a moment later a flash of lightning revealed it in ruins. Occupants of home heard roar of tornado. They described it as sounding "like a train coming down the road." Family's 2 automobiles blown into adjacent field. Garage and school bus wrecked and smashed; many roofs, sheds, and barns in vicinity of Carlos, Lynn, and Spartansburg damaged before storm crossed over into Ohio in vicinity of Sharpeye and Longtown. Corn which remained in fields completely flattened and suffered estimated 50 percent loss.
Greenville, Darke County, Ohio	15	8:45 p.m.	7	200-400	0	1	500,000	10,000	Tornado	Tornado moving east-northeastward crossed Indiana-Ohio line, skipping a distance of several miles before touching ground 7 miles west of final point just north of city limits of Greenville, Ohio. Damage included farm buildings, utility lines, some standing crops, and large grain bins of Commodity Credit Corporation. Man injured by flying glass.
ndianapolis, Ind.	15	10:35 p.m.	1/20	10	0	2	46,000	0	Tornado, wind, rain, hail, and electrical	Tornado moved east-northeastward. Garage demolished and timbers scattered. Apple tree pulled up by roots. Large brick building partially unroofed and some damage to a few other buildings.
ingman, Alamo, Middleton, and New Market, Montgomery and Fountain Counties, Ind.	15	Early evening	10-15				20,000		Hail, wind, rain, and electrical	Picture windows broken and roofs damaged by hail. Hail at New Market described as "rough hunks of ice the size of hens' eggs." Storm moved eastward.
oonville, Warrick County, Ind.	15	Early evening			0	0	5,000	0	Tornado (suspected), wind, rain, and electrical	Barn blown down and tractor knocked off road.
illedgeville to Whitestown, Boone County, Ind.	15	11 p.m.	10-15	*2		1	25,000		Hail, wind, and rain	Hail damaged many roofs and broke many windowpanes. Hailstones varied from size of marbles to reported 7-1/2 inches in circumference in small area southwest of Lebanon. Storm moved east-northeastward.
piceland, Henry County, Ind.	15	Evening			2		500		Wind, rain, and electrical	Wind picked up trailer and tossed it on its side, damaging it and its contents extensively. 2 persons killed when they came in contact with high voltage lines blown down by wind.
ecker area, Knox County, Ind.	15	Evening			0	0	15,000	0	Tornado, hail, wind, rain, and electrical	Hail broke many windows in churches, schools, and private homes and damaged roofs severely. Hail reported to be size of ping pong balls. Barn twisted to pieces 12 miles west of Decker and windows broken out on 3 sides of house in same area. Wind made "a noise like a freight train."

See footnote at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

November 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Polks Park and Gentryville, Warrick and Spencer Counties, Ind.	15	Evening			0	2	$50,000		Tornado (suspected), wind, rain, and electrical	Several barns smashed and 3 homes damaged in eastern Warrick County. Across line in Spencer County at Gentryville 2 filling stations demolished and 3 homes damaged. Storm moved eastward.
Huntington County (southeastern portion), Ind.	15	Night			1				Electrical and rain	Young man killed by lightning when struck while hunting.
Buffalo Tower (southwest of), Newton County, Ark.	15				0	0	200	$0	Tornado and rain	Tornado damaged 1 house.
Illinois	15				0	3	2,000,000	20,000	Tornadoes, wind, rain, hail, and electrical	From near Hillsboro, Montgomery County, to Bethany Moultrie County, 50 miles northeastward. Probable tornado destroyed barn near Hillsboro at 3:35 p.m. Severe wind and hail struck Ohlman and Rosamond with much damage to buildings, trees, and powerlines; moved to Pana by 4:45 p.m., with similar damage, which included breaking 1,200 square feet of greenhouse glass. Demolishion of farm buildings near Pana shows probable tornado there. Path through Pana 1,000 yards wide. Total damage estimated near $75,000. From near Belleville over 150 miles northeastward through Vandalia, Mattoon and to near Danville. Marble-sized hail fell nea Belleville at 4:50 p.m., and hail fell again at 5:30 p.m., with trees and wires downed. At nearb Alorton windows, siding, and roofs damaged by 1-1/4 inch hail. Earlier, near 4 p.m., wind and hail struck Vandalia and area southward to Sandoval. 70 percent of buildings in Vandalia damaged by hail up to 2 inches in diameter. Area south of Vandalia harder hit and to east of town hail piled up in drifts to 1 foot deep. Boy cut by hail, and damages in this area estimated at $100,000 or more. Shortly afterward towns of Brownstown, St. Elmo, Altamont, Moccasin, Beecher City, and Shumway, reaching the latter by 4:30 p.m., with hail baseball size breaking nearly eve south window in one 10-mile line. 2 injuries and many bruises reported; 1 cow killed by lightning. Some news accounts referred to "tornadic winds" i this area. Losses in these vicinities estimated at $50,000 or more. Losses in Coles County reached $1,000,000, with $750,000 damage in Mattoon alone. Other affected towns in this county were Fairgrange, Bushton, Rardin, Oakland, also areas south and east of Arcola. Farm buildin destroyed 4 miles south of Filson. Storm struck Mattoon area at about 4:30 p.m. Earlier, at abou 3 p.m., small tornado went through Longview, Champaign County, carrying 20 x 30 foot building 1/4 mile. Shortly afterward, about 3:30 p.m., heavy hail-, wind-, and rainstorm hit Sidell, with estimated damage of $5,000 in path 220 yards wide and 1-1/2 miles long, breaking trees, powerlines, chimneys, and windows. Noise described as extremely loud and roaring. At about 5 p.m., small tornado struck farm 2 miles east of Jamaica, in north-northeastward path 2 to 4 yards wide and 1/8 mile long, inflicting $500 damage. Near Phil freak wind lifted and twisted heavy piece of farm machinery, with $250 damage, in the evening. Lin from Sparta east-northeastward through southern portions of Jefferson and Wayne Counties to Mt. Carmel, a distance of 110 miles. At about 3:30 p.m., a tornado struck just east of Schuline, about 4 miles southwest of Sparta and cut 1/2-mile wide path eastward for 5 miles, to southeas of Sparta. Tornado damage estimated at $10,000 plus $500 in livestock, with an additional $5,00 in hail damage, including that in Sparta. Shortl after 4 p.m., storm hit southern portion of Jefferson County, including Waltonville, Nason, Bakerville, Belle Rive, and Opdyke where roofs, windows, and autos damaged. In Opdyke, 90 percent of homes damaged and hail piled to depth of 1 foot in some yards. State Police reported hail to depth of 5 inches on 4-mile stretch of road north of Nason. 5 pigs killed. Damages in this area estimated at $40,000. Between 4:30 and 5 p.m storm struck southern Wayne County, including south of Wayne City, Fairfield, Merriam, New Hop and Goldengate. In latter town hail was duck-eg size and nearly every building damaged. Damages in County estimated at $30,000. Between 4:45 and 5:30 p.m., strip about 3 miles wide through Edwards County, including Ellery and Albion, had what was called worst hailstorm in their history with stones size of baseballs. Worst of storm wa in path 1-1/2 to 2 miles wide. Nearly all of Albion's 900 buildings damaged. Damages in Coun estimated reliably at $200,000. Observer's

See footnote at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
llinois (Cont'd)										report suggests that this may have been a tornado aloft. Storm accompanied by brilliant electrical display. At Mt. Carmel storm hit between 5:30 to 5:45 p.m., with unusual lightning and hail to 1-1 2 inches in diameter. Trees and some buildings destroyed as was giant outdoor theatre screen, debris from which was distributed over 1 mile area. Lightning, water, wind, and hail damages in Wabash County probably in excess of $40,000. Rains from these storms caused Embarrass River to flood bottomlands and streets in Newton area, and water damages reported from Robinson and Grayville.
ynneville, helby County, nd.	15						$100,000		Electrical, rain, and wind	Lightning struck and destroyed grain elevator.
	15									Minor storms also reported at Newberry, Ind.; and near Morley and Perryville, Mo.
nterville, ontgomery ounty, Ohio	15-16	Near midnight			1	3	50,000		Wind and rain	Unofficially termed "tornado", but most likely straight-line thunderstorm winds. Fatality caused by contact with downed high-tension line. Main damage to farm buildings and by flooding of basements.
wa	15-16					6	4,000		Wind, snow, and cold wave	Cold wave with wind and snow caused traffic accidents on slippery highways. Storm moved southeastward.
ntucky, north- rn portion	15-16						65,000	$2,000	Hail, wind, rain, and electrical	Storm interrupted electrical services, flooded basements and streets, broke windows, damaged trailers, and blew down trees and wires. Greatest damage done by hail, with some damage done by the wind and rain. Hailstones ranged in size from golf balls to eggs.
st Plains (south of), owell County, o.	16	12:05-12:30 a.m.	4	1,000	0	2	10,000	0	Tornado and rain	Tornado moving northeastward destroyed 3 houses and damaged 23 houses and 10 other buildings. Injured man carried 150 yards. 1 house split in two. Path 1 mile from city limits at nearest approach.
nesboro and nna, Union ounty, Ill.	16	2:20 a.m.	5	50-300	0	0	200,000	8,000	Tornado, rain, hail, and electrical	Path from southwestern Jonesboro east-northeastward through southern edge of Anna and continued into rural area. Funnel only a few yards in diameter, but destruction 50 to 300 yards wide. Had storm happened during working hours, many lives would have been lost in demolished factory buildings.
anklin, John- on County, Ind.	16	A.M.					50,000	1,000	Rain	Very heavy rains forced Sugar Creek and Youngs Creek out of their banks, necessitating evacuation of 45 to 50 families and causing damage to household furnishings; also damaged some commercial establishments, warehouses, and basements, closed main highway, and undermined some sections of pavement.
merset, Somer- et County, Pa.	16	A.m.				3	15,000		Wind, rain, and electrical	Thunderstorms with high winds and heavy rains. Winds demolished cinder-block house; falling debris injured 3 residents. Storm moved eastward.
icago and uburbs, Ill.	16					5	10,000		Wind	Trees broken, powerlines downed, and windows broken. 5 persons injured in Chicago, when cut by fragments of wind-broken store window.
	16									Minor storms also reported at Bowling Green and Lynn Grove, Ky.; and in Greensboro area, N. C.
chigan	16-17	P.m. 16th-a.m. 17th			8	10	500,000		Wind and snow	High winds covered State between afternoon of 16th and morning of 17th, with gusts as high as 80 m.p.h., in western and northern Lower Michigan. Winds disrupted utility services, with heavy damage to electric and telephone lines. Damage also occurred to trees, buildings, windows, signs, and other property. 4 men drowned in Gratiot Lake, Keweenaw County, when high winds upset their boat. 2 men froze to death near Erie when trapped in mud after trying to make shore from small boat during storm. Heavy snow fell in northern Lower Michigan and on Upper Peninsula.
w York	16-17					4			Wind and snow	Passage of cold front across State attended by high winds, which strongest in western counties and through St. Lawrence Valley. Gusts up to 81 m.p.h., reported at Watertown, 70 m.p.h., in St. Lawrence County, 68 m.p.h., at Buffalo, 67 m.p.h., at Rochester, 65 m.p.h., at Niagara Falls, and 63 m.p.h., at Oswego. Throughout State trees uprooted, telephone and powerlines downed, blinding snow squalls crippled traffic, autos, buses, and trucks skidded on slippery highways and streets, and many schools closed. High winds caused flooding along eastern shore of Lake Erie and of Niagara River. Dwellings inundated and scores of families either fled or were stranded in their homes. Aggregate damage from storm considerable, although

ee footnote at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

November 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
New York (Cont'd)										monetary loss in any single community not large. 4 persons injured in Buffalo area. Storm moved eastward.
Wisconsin, entire State	16-17				1	Several	$125,000		Wind with blizzard contitions	Low center crossed southern Wisconsin and northern Illinois on 15th then into Lower Michigan. New low center formed and deepened rapidly near eastern end of Lake Superior on 16th. Several reports of wind blowing in plate-glass show windows. At least 1 metal factory smokestack blown over at Milwaukee and Sheboygan. Property damage also included damages to roofs. Tree limbs blown down. Utility wires blown down, with linemen spending considerable time the night of 16th and early morning of 17th making repairs. Several schools closed in northern Wisconsin on 17th because of snow drifts. Several duck hunters temporarily marooned on lakes. 12-year-old boy apparently suffocated in deep snow in Washburn County on 17th.
	17									Minor storms reported at Wakefield, Mass.; and in Vermont.
	19									Minor storms reported at Holly Ridge and in the mountains of North Carolina.
Maine, coastal areas	20	All day				6	7,500		Wind and snow	Northeast windstorm carrying light snow buffeted area all day, sending rolling seas against shore and making highways treacherously slippery. 41-foot seining boat valued at $5,000 washed up and wrecked against jagged rocks in Johnson's Bay. Icy pavements caused at least 6 automobile accidents and about same number of injuries.
	23									Minor storm reported at Moscow, Tenn.
Oregon, western portion	24-25			*50-60			50,000	Negligible	Wind and rain	High winds on 24th, followed by heavy rains on evening of 24th and 25th, caused several thousand dollars damage in scattered areas of western Oregon. A number of power outages when wind-felled trees knocked out powerlines. At Toledo, near coast in Lincoln County, wind blew roof off store building and that together with rain caused estimated $40,000 to building and merchandise. At Bandon, 60-foot cinder-block wall knocked over. In Portland area, the west side of hills, rain soaked by this and preceding storms, began sliding at several points which blocked streets and in one case tore out water main which sent an additional flood of mud and water into hillside homes causing considerable damage to them. Umpqua River highway was also closed for several hours by mud slide 1 mile east of Reedsport. Storm moved eastward.
Illinois, northern portion	27	Afternoon				Few	75,000		Snow and glaze	Snow falling on warm ground, partly melting and refreezing, produced hazardous traffic conditions, with about 1,000 traffic accidents in Chicago along. Only a few serious injuries.
Iowa	27-28				1	5	3,000		Wind, snow, and cold wave	Cold wave with wind and snow made highways slippery; resulting accidents killed 1 person and injured others. Storm moved southeastward.
Jackson County, N. C.	29	Night				1	500		Cold	Man nearly killed by exposure in near zero weather. A few minor automobile accidents due to icy highways, and some telephone lines broken due to unusual cold.

* Miles instead of yards.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

NOVEMBER 1955

The most important flooding during November occurred in the Skagit and Snohomish River Valleys in the Pacific Northwest and in the Wabash and White Rivers in Indiana. Flooding reported elsewhere was mostly minor.

ST. LAWRENCE DRAINAGE

Minor flooding occurred in the Lake Erie drainage along the St. Marys River at Decatur, Ind., between the 16th and 18th. No damage resulted from the overflow.

The flooding in the Lake Ontario drainage on the Genesee River at Scio, N. Y., on the 16th was due to locally heavy rain (amounts up to 3 and 4 inches) during the 24-hour period ending at 7:30 a.m., on the 16th. No damages were reported.

ATLANTIC SLOPE DRAINAGE

Heavy rain in southern New England over the weekend of the 5th and 6th produced extensive lowland flooding on the 5th in the Connecticut River Valley as well as valleys of the larger tributaries. The main stem of the Connecticut River crested at Hartford, Conn., slightly over flood stage on the 6th. Major streams elsewhere in New England remained well within their banks.

Moderate to heavy rains during the night of the 15th and morning of the 16th caused light flooding on the Chemung River at Chemung, N. Y., on the 17th.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Flow in the upper Mississippi River Basin averaged near normal during the month, except the Minnesota River which averaged considerably below normal. The average stage at Mankato, Minn., during November was 2.5 feet, compared to 3.1 feet, the average for the 52-year period. This was the lowest monthly November stage since 1950 when 2.0 feet was recorded.

By the end of November, snow covered all of the State of Minnesota, except the Minnesota River drainage and south of that line. The average snow depth above Fort Ripley on the Mississippi River was 9 to 16 inches, with the heaviest snow cover being reported in the Minnesota Arrowhead area. Present snow cover is similar to the 1951-52 snow season.

Most lakes throughout the upper two-thirds of Minnesota froze over during November. This was due to below-normal temperatures and below-normal lake levels. This freezeup is quite early compared to other years. For example, in the White Bear Lake, north of St. Paul, the first ice was reported on November 9; last year first ice was December 12, and in 1953 it was on December 20.

Missouri Basin.--River stages remained low throughout the Missouri Basin during the month with a record-low stage of -2.34 feet being reported on the Missouri River at Omaha, Nebr. The previous low record was -1.68 feet on December 27, 1949. On the Marais des Cygnes River, the record-low stage of 0.49 foot at Ottawa, Kans., was equaled from October 21 through November.

Cold weather caused a general freezeup during the last half of November, which is 2 to 4 weeks earlier than normal. The Missouri River froze over at Sioux City, Iowa, on November 29. At the end of the month, the Missouri was generally frozen from Bismarck, N. Dak., to below Sioux City, except for scattered patches of open water. Fort Randall Reservoir was still open for about 10 miles above the dam, but the remainder of the reservoir was frozen.

Ohio Basin.--Moderate to heavy rains in the upper Ohio Basin on the 16th caused moderate rises, but no flooding except for headwater streams where overbankful conditions flooded low-lying areas.

Navigation dams on the upper Ohio River were down for a period of 6 days, November 16 through 21. The Ohio River at Pittsburgh, Pa., remained in pool throughout the month.

Rains averaging 1 to 2 inches over the Wabash and White River Basins on the 2d and 3d caused rises to slightly above flood stage at Wabash and Lafayette, Ind., on the 4th and 5th, but no damage occurred. Heavy precipitation during the 24 hours ending on the 16th caused general flooding over the Wabash and White Rivers between the 17th and 29th. The precipitation averaged from 1 inch over the Wabash below Wabash, Ind., to more than 3 inches over the upper two-thirds of White River Basin. Throughout this area of heavy rains there was much flash flooding of small streams and sewers, particularly in the south Indianapolis area where considerable damage resulted. In that area several families had to be evacuated. Automobiles were submerged, some homes flooded, and fruits and groceries from a fruit market and grocery store were washed away as water became nearly 10 to 15 feet deep in some underpasses. Flash-flood damage at Franklin, Ind., was even more serious, where rising waters of Sugar Creek and Youngs Creek forced about 50 families from their homes and caused heavy damages.

PACIFIC SLOPE DRAINAGE

Columbia Basin.--Moderately heavy precipitation during the last half of the month from the 17th to the 19th and again from the 23d to the 27th caused two floods in the lower tributaries of the Willamette Basin during November. Most river stations in the middle and southern portions of the basin recorded highest stages during the first freshet while those in the northern portion recorded the highest stages during the second freshet. There was some local flooding in the lower McKenzie downstream from Coburg, Oreg., in the upper Willamette Basin. Crest stages in the Willamette were well below flood stage at all stations, except at Oregon City, Oreg. Damage in and along the rivers was mostly that due to erosion and the forming of large drifts of old logs, stumps, brush, etc.

Grays Harbor and Puget Sound Drainage.--Major flooding occurred in the Skagit and Snohomish River Valleys and minor flooding in the Chehalis, Satsop, Snoqualmie, Stillaquamish, and Nooksack Valleys on the 3d, 4th, and 5th. Rainfall in the upper Skagit Basin averaged nearly 4 inches for the 24 hours ending at 8 a.m. on the 3d. There was also considerable snowmelt at all levels since the freezing level had risen to 9,000 feet. The crest of 25.7 feet on the Skagit River at Mount Vernon, Wash., was the highest reached since the stage of 28.2 feet recorded in February 1951. The crest on the Snohomish was about 2 feet below the 1951 peak. Minor flooding occurred along the Snoqualmie and Snohomish on the 10th and 11th and in the upper Chehalis River Valley from the 25th to the 29th. The principal damage was to roads and bridges.

FLOOD STAGE DATA

(All dates in November unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			Ft.	
ST. LAWRENCE DRAINAGE					
Lake Erie					
St. Marys: Decatur, Ind.	15	16	18	17.7	17
Lake Ontario					
Genesee: Scio, N. Y.	8	16	16	8.6	16
ATLANTIC SLOPE DRAINAGE					
Connecticut: Hartford, Conn.	16	6	7	16.6	6
Chemung: Chemung, N. Y.	12	17	17	13.7	17
MISSISSIPPI SYSTEM					
Ohio Basin					
Eel: Bowling Green, Ind.	17	17	17	18.55	17
East Fork: Columbus, Ind.	10	18	18	14.4	18
Seymour, Ind.	14	18	20	18.2	18
White: Muncie, Ind.	6	17	17	9.0	17
Anderson, Ind.	10	17	18	14.6	17
Noblesville, Ind.	14	18	18	15.0	18
Spencer, Ind.	14	17	21	19.25	18
Elliston, Ind.	19	17	21	23.6	19
Edwardsport, Ind.	12	17	29	19.6	21
Petersburg, Ind.	16	22	27	20.05	25
Wabash: Wabash, Ind.	12	4 17	5 18	13.65 13.6	4 17
Lafayette, Ind.	11	5 18	5 19	12.3 12.8	5 18-19
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Santiam: Jefferson, Oreg.	13	19 26	20 27	18.6 16.3	19 27
South Yamhill: Whiteson, Oreg.	38	26	28	41.3	27
Molalla: Canby (nr), Oreg.	11	19 27	19 27	12.65 12.2	19 27
Tualatin: Dilley, Oreg.	12	19 25	20 29	12.2 12.8	19 25
Willamette: Harrisburg, Oreg.	12	20	20	13.25	20
Cowlitz: Randle, Wash.	10	4 10 27	6 11 28	15.8 15.6 12.3	5 10 27
GRAYS HARBOR DRAINAGE					
Satsop: Satsop, Wash.	34	3	4	35.55	3
Chehalis: Centralia, Wash.	63	4 26	5 28	63.6 65.15	5 27
Grand Mound, Wash.	12	3 25	5 29	15.1 14.7	4 27
PUGET SOUND DRAINAGE					
Snoqualmie: Carnation, Wash.	51	3 10	5 11	54.1 53.8	4 10
Snohomish: Snohomish, Wash.	23	3 10	5 11	28.1 25.7	4 10
Stillaquamish: Arlington, Wash.	16	3	3	18.0	3
Skagit: Concrete, Wash.	27	3	4	34.5	3
Mt. Vernon, Wash.	21	3	6	25.7	4

* Provisional

RADIOSONDE DATA

Average monthly values

Table 20

NOVEMBER 1955

Standard pressure surface (mb)	ALBANY, N. Y. (1003 MB.)				ALBUQUERQUE, N. MEX. (838 MB.)				ANCHORAGE, ALASKA (1009 MB.)				ANNETTE, ALASKA (1008 MB.)				ATHENS, GA. (989 MB.)				BARROW, ALASKA (1021 MB.)				BETHEL, ALASKA (1014 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	86	2.6	79	30	1,619	8.6	31	30	42	-10.4	62	30	37	0.0	62	30	246	9.5	66	30	8	-24.2	74	30	4	- 8.8	80
1,000--	30	108			30	121			30	96			30	98			30	156			30	162	-22.6	77	30	106	- 8.4	76
950----	30	524	1.0	76	30	563			30	501	- 6.1	53	30	511	- 3.2	59	30	586	10.7	51	30	549	-19.4	79	30	511	- 5.6	64
900 -	30	955	.9	76	30	1,018			30	918	- 6.4	45	30	932	- 5.9	60	30	1,034	8.7	52	30	943	-18.2	72	30	931	- 6.2	59
850----	30	1,409	- 2.7	75	30	1,497			30	1,364	- 7.8	46	30	1,378	- 7.8	58	30	1,506	7.8	40	30	1,370	-18.1	62	30	1,376	- 7.7	56
800----	30	1,889	- 4.2	67	30	2,001	8.3	30	30	1,833	- 9.9	51	30	1,848	- 9.7	57	30	2,005	6.3	41	30	1,821	-19.4	57	30	1,846	- 9.6	53
750----	30	2,402	- 6.0	66	30	2,537	4.8	32	30	2,330	-12.5	50	30	2,349	-11.8	52	30	2,541	4.2	36	30	2,308	-21.2	52	30	2,345	-11.5	50
700-	30	2,933	- 8.2	60	30	3,089	1.4	33	30	2,852	-15.1	47	30	2,870	-14.3	49	30	3,091	2.2	34	30	2,806	-23.4	49	30	2,869	-13.8	42
650----	30	3,513	-10.7	59	30	3,684	- 2.4	32	30	3,418	-17.9	43	30	3,437	-17.3	48	29	3,693	- .8	31	30	3,358	-26.2	47	30	3,435	-17.0	41
600----	30	4,118	-13.8	51	30	4,312	- 6.4	31	30	4,004	-21.1	41	30	4,025	-20.5	45	29	4,322	- 4.7	29	30	3,920	-29.5	47	30	4,025	-20.6	40
550----	30	4,776	-17.3	46	29	4,987	-10.5	28	30	4,645	-24.8	41	30	4,668	-24.5	43	29	5,005	- 9.1		30	4,546	-33.1	48	30	4,664	-24.5	41
500----	30	5,482	-22.2	46	29	5,711	-15.5		30	5,328	-28.8		30	5,351	-28.9		29	5,731	-14.3		29	5,200	-37.4		30	5,351	-28.7	44
450----	30	6,252	-27.3		29	6,509	-21.5	31	30	6,079	-33.7	42	30	6,103	-33.5		29	6,533	-19.8		28	5,932	-41.7		30	6,102	-33.5	43
400----	30	7,086	-33.2		29	7,355	-27.4	32	30	6,891	-39.1		30	6,917	-38.5		29	7,387	-25.9		28	6,712	-46.8		30	6,915	-38.7	
350----	30	8,012	-39.4		28	8,298	-34.6		30	7,793	-45.4		30	7,822	-44.3		28	8,343	-33.5		28	7,587	-52.2		30	7,820	-44.7	
300----	30	9,050	-46.0		28	9,358	-42.6		30	8,805	-52.0		30	8,840	-49.9		27	9,404	-41.2		28	8,573	-56.1		30	8,836	-51.1	
250----	29	10,242	-52.2		28	10,564	-51.5		30	9,970	-56.6		30	10,018	-53.9		26	10,618	-50.5		28	9,728	-56.5		30	10,006	-56.0	
200----	29	11,668	-56.5		28	11,985	-59.6		30	11,385	-55.1		30	11,416	-54.1		26	12,043	-58.7		28	11,148	-54.6		27	11,427	-54.8	
175	29	12,512	-57.1		26	12,819	-61.5		30	12,240	-53.8		29	12,292	-53.2		23	12,886	-61.3		28	12,003	-53.9		26	12,285	-53.4	
150----	28	13,482	-57.1		25	13,772	-62.3		30	13,230	-53.3		28	13,289	-53.7		21	13,841	-64.0		28	12,992	-54.0		26	13,278	-53.0	
125----	28	14,632	-58.2		24	14,894	-64.4		30	14,404	-52.8		27	14,455	-53.9		16	14,932	-65.3		28	14,160	-54.2		26	14,454	-52.3	
100----	25	16,027	-58.6		24	16,253	-65.5		30	15,845	-52.2		26	15,883	-53.7		12	16,289	-66.6		27	15,585	-54.8		25	15,894	-51.5	
80----	19	17,425	-58.3		23	17,615	-64.4		26	17,286	-53.1		25	17,308	-54.5		10	17,641	-66.0		26	17,004	-55.9		21	17,332	-50.8	
60-----	12	19,227	-58.4		22	19,383	-62.2		25	19,134	-53.5		22	19,148	-54.3		8	19,412	-60.7		24	18,837	-56.8		21	19,205	-50.4	
50-	10	20,388	-57.4		20	20,519	-59.4		22	20,312	-53.4		19	20,308	-54.4		8	20,552	-59.0		21	19,984	-57.6		21	20,392	-51.3	
40-----	9	21,805	-58.4		18	21,925	-57.0		17	21,738	-54.1		16	21,746	-53.4		7	21,966	-56.4		16	21,399	-58.2		18	21,846	-51.3	
30-----					12	23,753	-54.5		10	23,629	-54.3		11	23,597	-53.6		6	23,816	-54.1		7	23,244	-57.4		12	23,707	-51.5	
20-----					5	26,382	-51.1						5	26,158	-55.3										5	26,265	-55.2	

Standard pressure surface (mb)	BISMARCK, N. DAK. (956 MB.)				BOISE, IDAHO (917 MB.)				BROWNSVILLE, TEX. (1016 MB.)				BUFFALO, N. Y. (992 MB.)				BURRWOOD, LA. (1019 MB.)				CARIBOU, ME. (986 MB.)				CHARLESTON, S. C. (1018 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	505	- 9.1	71	30	868	1.9	73	29	7	19.5	80	30	182	3.2	76	30	3	17.5	81	30	191	- 0.7	81	30	13	10.3	83
1,000--	30	148			30	161			29	145	19.7	79	30	112			30	161	17.7	72	30	75			30	159	14.4	64
950----	30	557			30	584			29	594	18.2	80	30	530	1.9	75	30	603	15.3	69	30	487	- 2.2	77	30	595	12.9	54
900---	30	970	- 7.0	64	30	1,020	3.4	60	29	1,050	16.9	77	30	963	- .5	79	30	1,057	14.5	55	30	914	- 4.0	79	30	1,045	11.0	48
850----	30	1,415	- 7.0	61	30	1,483	1.6	57	29	1,538	16.1	64	30	1,418	- 3.1	79	30	1,539	12.9	52	30	1,364	- 5.1	73	30	1,521	9.7	39
800----	30	1,888	- 7.5	59	30	1,969	- 1.3	61	29	2,052	14.3	54	30	1,896	- 5.1	78	30	2,047	11.1	46	30	1,839	- 6.4	65	30	2,023	8.2	35
750----	30	2,396	- 9.6	59	30	2,486	- 4.2	63	29	2,601	11.9	42	30	2,406	- 6.8	66	30	2,590	9.0	42	30	2,349	- 8.4	60	30	2,560	6.2	33
700----	30	2,919	-12.0	59	30	3,022	- 7.3	61	29	3,169	8.0	42	30	2,938	- 9.1	57	30	3,152	5.9	39	30	2,875	-10.5	55	30	3,117	3.7	32
650----	30	3,495	-14.9	54	30	3,601	-10.5	58	29	3,783	3.8	41	30	3,516	-11.3	54	30	3,760	2.3	37	30	3,448	-13.5	49	30	3,720	.6	29
600----	30	4,084	-18.0	51	30	4,208	-14.1	54	29	4,421	- .2	34	30	4,118	-14.6	57	27	4,399	- 1.6	34	30	4,047	-16.6	43	30	4,354	- 3.2	
550----	30	4,733	-21.7	48	30	4,866	-18.1	50	29	5,113	- 4.5		30	4,777	-18.4	50	27	5,087	- 5.8		30	4,699	-20.5	43	30	5,041	- 7.7	
500----	30	5,425	-26.4	47	30	5,571	-22.2	44	29	5,857	- 9.1		30	5,477	-22.7	43	27	5,826	-10.8		30	5,395	-25.2	42	30	5,772	-12.8	
450----	30	6,189	-31.2	47	30	6,345	-27.0	42	29	6,674	-14.5		30	6,250	-28.1	42	27	6,635	-16.3		30	6,161	-30.0		30	6,575	-18.6	
400----	30	7,004	-37.0		30	7,178	-33.0	41	29	7,546	-20.9		30	7,078	-34.0	42	27	7,504	-22.6		30	6,984	-35.2		30	7,436	-24.8	
350----	30	7,914	-43.4		30	8,103	-39.7		29	8,518	-28.1		30	7,999	-40.5		26	8,469	-29.8		30	7,900	-41.8		30	8,394	-32.0	
300- --	30	8,936	-49.7		29	9,136	-46.3		28	9,604	-36.0		30	9,033	-46.9		26	9,549	-37.8		28	8,938	-47.7		30	9,465	-40.5	
250----	30	10,115	-54.0		28	10,330	-53.2		28	10,844	-45.4		30	10,226	-51.8		23	10,771	-47.6		27	10,132	-52.2		29	10,685	-49.7	
200----	29	11,543	-56.0		28	11,748	-58.3		27	12,295	-56.2		29	11,651	-55.6		22	12,215	-57.9		27	11,564	-54.8		29	12,116	-58.5	
175----	29	12,392	-55.6		27	12,577	-59.5		27	13,131	-61.8		29	12,500	-56.0		21	13,043	-62.3		26	12,406	-54.4		29	12,948	-62.1	
150----	29	13,376	-55.0		26	13,540	-59.1		19	14,088	-66.8		29	13,477	-56.8		20	13,986	-66.2		26	13,394	-54.5		28	13,898	-65.0	
125----	29	14,539	-55.5		26	14,681	-59.4		18	15,175	-69.8		27	14,624	-57.7		18	15,084	-67.9		25	14,562	-55.9		28	15,004	-67.1	
100----	29	15,959	-56.3		26	16,077	-59.7		11	16,524	-74.6		23	16,036	-58.9		15	16,434	-71.4		23	15,984	-57.2		28	16,345	-68.6	
80- -	27	17,363	-57.3		25	17,472	-58.6		9	17,815	-74.2		21	17,425	-59.5		12	17,743	-71.3		19	17,369	-58.2		27	17,681	-67.7	
60-----	25	19,172	-58.0		24	19,271	-59.2		8	19,519	-66.9		18	19,214	-59.2		10	19,471	-66.6		14	19,163	-57.9		23	19,437	-62.1	
50-----	22	20,314	-58.4		24	20,414	-58.8		8	20,627	-63.6		17	20,352	-59.1		10	20,581	-62.7		13	20,310	-59.1		22	20,569	-60.0	
40-----	19	21,717	-59.0		21	21,825	-58.6		8	22,009	-59.5		16	21,753	-58.2		9	21,967	-58.8		9	21,684	-59.8		20	21,973	-57.1	
30-----	9	23,546	-58.3		13	23,646	-57.5		8	23,826	-55.2		11	23,568	-58.1		8	23,780	-55.0		6	23,531	-59.4		18	23,803	-54.7	
20-----													5	26,157	-56.2										8	26,445	-51.2	

Standard pressure surface (mb)	COLD BAY, ALASKA (1005 MB.)				COLUMBIA, MO. (988 MB.)				DODGE CITY, KANS. (924 MB.)				EL PASO, TEX. (882 MB.)				ELY, NEV. (809 MB.)				FAIRBANKS, ALASKA (1003 MB.)				FT. HUACHUCA, ARIZ. (857 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	27	2.1	86	30	238	4.0	60	30	792	3.0	48	30	1,195	13.0	30	30	1,908	0.2	57	30	135	-21.9	75	28	1,428	13.6	26
1,000--	30	69			30	135			30	143			30	120			30	162			30	153			28	101		
950----	30	487	- .7	82	30	559	4.9	52	30	566			30	563			30	595			30	538	-16.6	62	28	549		
900----	30	912	- 3.2	82	30	995	3.3	53	30	1,009	5.3	36	30	1,024			30	1,043			30	944	-14.3	57	28	1,016		
850----	30	1,362	- 5.4	78	30	1,457	2.3	52	30	1,475	4.7	32	30	1,508	13.6	27	30	1,505			30	1,377	-14.1	54	28	1,497	14.1	27
800---	30	1,836	- 6.9	68	30	1,945	.9	47	30	1,967	3.4	31	30	2,015	10.5	30	30	2,000			30	1,837	-13.9	53	28	2,006	10.8	33
750-	30	2,343	- 8.5	58	30	2,471	- 1.3	46	30	2,495	2.0	28	30	2,556	7.6	31	30	2,530	1.1	49	30	2,331	-15.4	53	28	2,544	7.6	33
700-	30	2,870	-11.1	53	30	3,010	- 3.5	41	30	3,043	- .6	31	30	3,114	4.4	28	30	3,072	- 2.4	51	30	2,844	-18.0	52	28	3,104	4.3	30
650----	30	3,444	-14.1	51	30	3,595	- 6.7	38	30	3,631	- 4.0	32	30	3,718	.6		30	3,664	- 5.6	51	30	3,399	-21.2	49	28	3,703	.7	
600----	30	4,039	-17.4	50	30	4,213	-10.2	35	30	4,258	- 8.2	34	30	4,350	- 3.2		30	4,281	- 9.0	48	30	3,980	-24.6	48	28	4,341	- 3.5	
550 ---	30	4,692	-21.1	51	30	4,878	-14.2	29	30	4,927	-12.4	32	30	5,033	- 7.6		30	4,956	-12.6	37	30	4,611	-28.6	47	27	5,020	- 7.8	
500----	30	5,383	-25.3	51	30	5,595	-18.6	31	30	5,649	-16.9		30	5,767	-12.6		30	5,672	-16.8	38	30	5,285	-32.6	45	26	5,757	-12.8	
450----	30	6,152	-30.1	53	30	6,378	-24.3		30	6,438	-22.5		30	6,572	-18.6		30	6,468	-21.9	38	30	6,028	-37.0	44	24	6,549	-18.5	
400----	30	6,969	-35.7	50	30	7,219	-30.6		30	7,286	-28.7		30	7,430	-25.2		29	7,319	-28.1		30	6,827	-41.8		22	7,411	-25.3	
350----	30	7,884	-42.2		30	8,153	-37.7		29	8,222	-36.0		30	8,384	-32.6		29	8,263	-35.2		30	7,720	-47.4		22	8,365	-32.8	
300----	29	8,902	-49.4		30	9,198	-45.2		28	9,277	-44.1		29	9,451	-40.6		29	9,320	-43.3		30	8,726	-53.0		22	9,431	-40.9	
250----	29	10,079	-54.6		30	10,394	-52.4		28	10,475	-52.6		29	10,667	-49.8		29	10,523	-51.9		29	9,890	-55.7		19	10,647	-50.1	
200----	26	11,482	-53.2		30	11,818	-57.6		28	11,891	-59.3		28	12,090	-58.8		29	11,945	-58.9		29	11,309	-55.0		19	12,072	-59.5	
175----	24	12,345	-52.5		30	12,658	-58.4		28	12,723	-61.1		28	12,921	-62.1		28	12,786	-61.5		29	12,164	-53.6		16	12,903	-61.9	
150----	22	13,340	-51.6		28	13,621	-59.9		28	13,676	-62.6		28	13,866	-65.1		27	13,737	-62.3		29	13,155	-53.2		10	13,857	-63.7	
125----	17	14,531	-51.9		28	14,755	-61.5		24	14,784	-63.2		27	14,970	-66.6		25	14,853	-62.0		27	14,333	-53.0					
100----	14	15,945	-50.4		28	16,133	-62.5		20	16,156	-63.4		24	16,323	-68.1		24	16,225	-62.3		27	15,770	-53.0					
80-----	9	17,387	-50.7		27	17,509	-62.3		19	17,529	-63.2		23	17,666	-67.9		24	17,601	-61.9		26	17,204	-53.4					
60-----	6	19,255	-51.6		23	19,297	-60.7		17	19,300	-61.2		22	19,403	-64.2		22	19,388	-60.1		24	19,050	-54.2					
50-----					22	20,432	-59.0		16	20,435	-60.2		22	20,525	-61.5		20	20,528	-59.4		23	20,215	-55.0					
40-----					21	21,837	-58.0		15	21,827	-58.8		21	21,920	-57.6		15	21,937	-57.0		18	21,652	-55.4					
30-----					15	23,645	-57.4		8	23,640	-56.2		15	23,756	-53.7		12	23,763	-56.3		12	23,481	-56.1					
20-----					6	26,267	-54.7																					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb.)	GLASGOW, MONT. (934 MB.)				GRAND JUNCTION, COLO. (853 MB.)				GREAT FALLS, MONT. (886 MB.)				GREEN BAY, WIS. (987 MB.)				GREENSBORO, N. C. (986 MB.)				HATTERAS, N. C. (1016 MB.)				HILO, T. H. (1013 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	695	- 9.7	77	30	1,474	2.2	55	30	1,123	- 7.2	68	30	210	- 0.9	74	30	273	6.2	76	30	3	13.3	75	29	9	23.3	80
1,000	30	163			30	162			30	168			30	103			30	153			30	140	13.4	65	29	127	22.1	79
950	30	564			30	591			30	579			30	517	- 1.7	70	30	581	9.4	50	30	571	11.4	54	29	579	18.8	83
900	30	985	- 7.2	59	30	1,034			30	1,005			30	942	- 3.8	67	30	1,025	7.2	49	30	1,020	9.2	46	29	1,035	15.6	86
850	30	1,430	- 7.8	56	30	1,499	2.5	50	30	1,450	- 6.1	54	30	1,392	- 4.7	65	30	1,493	5.3	45	30	1,492	7.5	40	29	1,519	12.6	85
800	30	1,900	- 8.7	53	30	1,991	2.6	45	30	1,923	- 7.6	62	30	1,868	- 5.9	62	30	1,987	3.8	42	30	1,989	5.7	40	29	2,027	10.5	72
750	30	2,405	-10.7	53	30	2,520	.5	44	30	2,428	- 9.8	66	30	2,378	- 7.3	59	30	2,518	2.3	38	30	2,522	3.7	37	29	2,574	8.9	53
700	30	2,927	-12.9	54	30	3,061	- 3.0	47	30	2,953	-12.2	69	30	2,908	- 9.7	54	30	3,065	.3	31	30	3,073	1.2	33	29	3,132	6.4	39
650	30	3,497	-15.6	54	30	3,651	- 6.6	50	30	3,527	-15.0	65	30	3,483	-12.2	51	30	3,665	- 2.6		30	3,670	- 2.0	32	29	3,741	3.1	39
600	30	4,089	-18.8	54	30	4,266	-10.1	49	30	4,118	-18.2	61	30	4,085	-15.5	49	30	4,287	- 6.4		29	4,296	- 5.4		29	4,381	- .8	34
550	30	4,738	-22.3	56	30	4,935	-13.5	47	30	4,766	-22.1	60	30	4,739	-19.2	47	30	4,967	-11.1		29	4,976	-10.0		29	5,075	- 5.0	34
500	29	5,430	-26.4	53	30	5,648	-18.3	46	30	5,458	-26.5	56	30	5,438	-24.1	51	30	5,687	-15.8		29	5,702	-14.7		29	5,814	- 9.8	37
450	29	6,188	-31.6	49	30	6,436	-24.0	45	30	6,221	-31.5	51	30	6,207	-29.5	50	30	6,482	-21.2		29	6,496	-20.4		29	6,629	-15.1	
400	29	7,007	-37.3	48	30	7,275	-29.7	39	30	7,036	-37.1	56	30	7,029	-35.1	51	30	7,332	-27.2		29	7,353	-26.3		29	7,500	-21.4	
350	28	7,921	-43.5		30	8,213	-36.7		30	7,946	-43.3		30	7,947	-41.4		30	8,279	-34.2		29	8,303	-33.3		29	8,469	-28.8	
300	28	8,941	-49.5		30	9,262	-44.4		29	8,983	-49.3		30	8,976	-48.1		30	9,339	-41.8		28	9,367	-41.2		29	9,554	-37.2	
250	27	10,124	-53.9		30	10,459	-52.9		28	10,158	-53.5		30	10,164	-52.5		30	10,550	-50.4		28	10,579	-50.3		29	10,787	-47.2	
200	27	11,547	-55.4		29	11,871	-58.9		28	11,582	-56.2		30	11,597	-54.3		30	11,977	-58.1		28	12,004	-58.6		28	12,223	-59.1	
175	26	12,408	-55.7		29	12,704	-60.8		28	12,430	-55.9		30	12,451	-54.9		29	12,817	-60.8		28	12,837	-60.8		24	13,046	-65.1	
150	25	13,391	-55.9		28	13,656	-59.8		28	13,409	-56.4		30	13,435	-54.9		28	13,766	-62.2		27	13,785	-62.9		20	13,967	-69.3	
125	25	14,548	-56.2		26	14,800	-60.7		27	14,564	-56.2		30	14,596	-55.9		27	14,888	-64.4		27	14,900	-65.0		10	15,039	-71.6	
100	25	15,960	-56.6		25	16,183	-62.7		26	15,978	-56.7		28	16,010	-56.8		24	16,243	-64.3		27	16,254	-66.1					
80	25	17,371	-56.8		23	17,541	-63.2		27	17,392	-57.0		27	17,417	-58.0		24	17,610	-63.0		25	17,604	-64.4					
60	25	19,186	-57.4		22	19,319	-60.5		24	19,206	-57.7		23	19,229	-58.5		21	19,391	-59.2		23	19,379	-60.9					
50	19	20,328	-58.6		20	20,453	-59.5		24	20,355	-58.0		22	20,374	-58.7		20	20,543	-57.5		22	20,516	-59.3					
40	15	21,745	-58.0		16	21,854	-58.9		21	21,763	-58.9		15	21,786	-58.3		18	21,952	-56.2		21	21,918	-57.6					
30	11	23,589	-57.2		14	23,671	-57.0		13	23,558	-57.6		9	23,602	-56.5		16	23,788	-55.1		18	23,744	-55.4					
20					6	26,253	-54.4		5	26,130	-56.8						6	26,394	-53.4		9	26,386	-53.7					
15																					5	28,193	-53.5					

Standard pressure surface (mb.)	INTERNAT. FALLS, MINN. (969 MB.)				JACKSONVILLE, FLA. (1019 MB.)				KOTZEBUE, ALASKA (1019 MB.)				LAKE CHARLES, LA. (1018 MB.)				LANDER, WYO. (826 MB.)				LAS VEGAS, NEV. (938 MB.)				LITTLE ROCK, ARK. (1009 MB.)			
SURFACE	30	360	- 7.0	78	29	6	14.4	83	30	5	-17.8	78	30	5	14.4	78	30	1,696	- 3.1	65	30	660	12.0	29	30	79	10.2	63
1,000	30	107			29	165	17.2	68	30	145	-15.3	69	30	159	15.1	69	30	146			30	118			30	147		
950	30	510	- 7.3	79	29	603	14.7	62	30	541	-13.4	63	30	595	13.5	64	30	567			30	553			30	578	10.1	48
900	30	929	- 8.0	77	29	1,059	12.9	59	30	946	-12.8	58	30	1,048	13.1	59	30	1,002			30	1,011	15.0	27	30	1,023	8.2	48
850	30	1,373	- 8.1	72	29	1,538	11.8	51	30	1,382	-13.1	51	30	1,528	12.3	53	30	1,464			30	1,492	11.9	29	30	1,494	7.3	45
800	30	1,844	- 8.9	70	28	2,042	9.7	45	30	1,843	-14.1	42	30	2,035	10.6	50	30	1,948	- 1.9	54	30	1,996	8.7	32	30	1,993	6.4	42
750	30	2,345	-10.7	68	28	2,579	7.6	43	30	2,340	-15.9	38	30	2,577	8.2	43	30	2,466	- 3.0	50	30	2,532	5.2	36	30	2,527	4.7	35
700	30	2,870	-12.5	66	28	3,142	4.9	35	30	2,848	-18.3	38	30	3,138	5.1	38	30	3,005	- 5.9	48	30	3,086	1.9	36	30	3,081	2.6	30
650	30	3,438	-15.0	60	28	3,746	1.7		30	3,406	-21.4	37	29	3,744	1.6	37	30	3,584	- 9.4	49	30	3,682	- 1.5	36	30	3,677	- .8	
600	30	4,034	-18.2	57	28	4,384	- 1.9		30	3,984	-24.8	39	29	4,384	- 2.3	36	30	4,196	-12.8	48	30	4,314	- 5.5	35	30	4,310	- 4.6	
550	29	4,685	-22.3	58	28	5,069	- 6.8		30	4,618	-28.7	40	29	5,072	- 6.7	35	30	4,854	-17.0	44	30	4,988	- 9.6	34	30	4,990	- 8.8	
500	29	5,374	-26.8	51	28	5,807	-11.8		30	5,288	-33.0	37	29	5,807	-11.6		30	5,562	-21.9	42	30	5,720	-14.7		30	5,721	-13.8	
450	29	6,133	-32.0	49	28	6,608	-17.4		30	6,029	-38.0		28	6,616	-17.2		30	6,334	-27.4	38	30	6,512	-20.8		30	6,516	-19.4	
400	29	6,947	-37.9	53	28	7,477	-23.9		30	6,824	-43.2		28	7,479	-23.5		30	7,167	-33.6	36	30	7,369	-27.4		30	7,375	-26.3	
350	26	7,852	-44.2		28	8,438	-30.8		30	7,712	-49.1		28	8,439	-30.9		30	8,090	-39.9		30	8,314	-34.9		30	8,326	-33.5	
300	26	8,870	-50.0		28	9,513	-39.0		30	8,711	-53.9		28	9,515	-38.7		30	9,126	-46.8		30	9,369	-43.3		30	9,389	-41.8	
250	26	10,048	-53.4		28	10,737	-48.3		30	9,873	-56.2		28	10,740	-47.9		30	10,314	-53.8		30	10,571	-52.2		30	10,599	-50.7	
200	26	11,482	-53 1		28	12,173	-57.9		30	11,293	-54.8		28	12,177	-57.9		29	11,740	-58.4		29	11,976	-60.7		26	12,033	-58.5	
175	26	12,342	-52.8		27	13,007	-62.1		30	12,148	-53.6		28	13,010	-62.2		27	12,585	-59.5		29	12,802	-62.1		26	12,867	-61.2	
150	23	13,345	-53.4		27	13,950	-65.5		30	13,138	-53.8		25	13,951	-65.5		27	23,549	-59.7		27	13,752	-62.4		25	13,810	-63.2	
125	19	14,521	-53.9		27	15,050	-68.2		30	14,310	-53.3		25	15,053	-67.6		27	14,688	-59.7		26	14,875	-63.4		20	14,942	-65.6	
100	14	15,946	-53.9		26	16,379	-69.3		30	15,747	-52.9		22	16,385	-70.0		26	16,089	-59.7		26	16,237	-65.4		18	16,284	-66.2	
80	10	17,373	-54.9		19	17,730	-69.3		29	17,182	-53.3		19	17,718	-70.5		23	17,477	-60.3		26	17,594	-64.8		15	17,629	-66.1	
60	8	19,208	-56.8		17	19,474	-63.1		23	19,036	-53.7		18	19,443	-65.0		19	19,265	-58.9		23	19,358	-62.7		13	19,396	-61.4	
50	6	20,353	-57.5		16	20,606	-59.4		19	20,214	-53.8		18	20,562	-62.0		19	20,412	-57.5		23	20,485	-60.3		12	20,525	-58.6	
40	5	21,749	-57.2		16	22,009	-56.9		14	21,665	-54.1		16	21,954	-58.9		17	21,820	-57.9		18	21,882	-58.7		11	21,933	-56.2	
30					12	23,848	-53.7		6	23,553	-52.4		15	23,768	-55.4		11	23,632	-57.7		16	23,706	-56.2		7	23,799	-53.7	
20					8	26,463	-48.3						12	26,378	-51.2						11	26,327	-51.5					
15													6	28,230	-50.0													

Standard pressure surface (mb.)	MAZATLAN, MEXICO (1010 MB.)				MC GRATH, ALASKA (1005 MB.)				MEDFORD, ORE. (971 MB.)				MIAMI, FLA. (1018 MB.)				MIDLAND, TEXAS (917 MB.)				NANTUCKET, MASS. (1010 MB.)				NASHVILLE, TENN. (998 MB.)			
SURFACE	29	14	23.9	72	30	103	-19.6	72	29	401	6.2	87	30	4	21.7	76	30	871	10.4	42	30	14	6.8	81	30	177	7.4	69
1,000	29	102	23.5	73	30	141			29	159			30	155	22.0	70	30	137			30	98	7.1	76	30	158		
950	29	561	24.2	55	30	530	-13.2	66	29	586	6.6	78	30	600	19.0	72	30	578			30	519	4.7	73	30	583	7.5	52
900	29	1,024	21.8	51	30	940	-10.4	57	29	1,024	4.9	74	30	1,062	15.8	71	30	1,029	12.6	35	30	958	2.4	72	30	1,025	5.8	50
850	29	1,519	19.2	44	30	1,381	-10.2	51	29	1,488	2.5	73	30	1,546	13.7	59	30	1,508	11.4	30	30	1,418	.6	68	30	1,492	4.8	48
800	29	2,036	15.5	46	30	1,847	-11.2	48	29	1,975	- .6	72	30	2,056	12.4	41	30	2,013	10.0	29	30	1,904	- 1.2	60	30	1,985	3.8	43
750	29	2,586	11 4	50	30	2,342	-13.0	47	29	2,497	- 2.6	65	30	2,600	10.3		30	2,555	7.6	28	30	2,424	- 3.4	58	30	2,514	1.9	39
700	29	3,153	7.7		30	2,863	-15.8	50	29	3,034	- 4.9	61	30	3,166	7 4		30	3,112	4.6	26	30	2,960	- 5.6	52	30	3,062	- .5	33
650	27	3,766	3.7		30	3,422	-19.0	49	29	3,617	- 8.3	57	30	3,777	4.2		30	3,718	1.0		30	3,546	- 8.4	50	30	3,659	- 2.9	30
600	27	4,404	- .4		30	4,009	-22.6	49	29	4,230	-11.4	54	30	4,419	.5		30	4,350	- 3.1		30	4,156	-11.5	45	30	4,282	- 6.5	
550	27	5,095	- 4.7		28	4,640	-26.8	48	29	4,899	-15.0	52	30	5,112	- 3.9		30	5,032	- 7.6		30	4,822	-15.1	38	30	4,961	-10.7	
500	27	5,838	- 9.6		27	5,328	-30.6	45	29	5,608	-19.2	46	30	5,856	- 8.9		30	5,767	-13.3		30	5,533	-19.5		30	5,683	-15.6	
450	26	6,647	-15.3		26	6,071	-35.4		29	6,392	-24.3	44	30	6,672	-14.6		30	6,568	-19.3		30	6,313	-25.1		30	6,477	-21.4	
400	26	7,523	-21.0		26	6,877	-40.6		29	7,232	-30.3	45	30	7,545	-21.0		30	7,424	-25.9		30	7,153	-31.1		30	7,327	-27.6	
350	25	8,497	-28.3		26	7,776	-46.0		29	8,169	-37.2		30	8,517	-28.5		30	8,377	-33.2		30	8,086	-37.8		30	8,273	-34.9	
300	22	9,580	-36.9		25	8,776	-51.3		29	9,216	-44.9		30	9,602	-36.8		29	9,441	-41.4		29	9,133	-45.0		30	9,331	-42.6	
250	13	10,817	-46.9		24	9,944	-54.6		29	10,412	-53.3		30	10,838	-46.2		29	10,653	-50.1		29	10,331	-51.7		30	10,539	-50.9	
200	5	12,263	-58.3		24	11,373	-53.2		29	11,826	-59.3		30	12,285	-56.8		28	12,082	-58.6		29	11,758	-56.8		30	11,964	-58.5	
175					24	12,235	-52.2		29	12,659	-60.5		30	13,119	-62.6		28	12,913	-62.1		29	12,602	-57.3		30	12,798	-61.1	
150					24	13,231	-52.0		29	13,617	-60.7		30	14,055	-68.1		28	13,857	-64.8		29	13,574	-58.0		28	13,752	-62.4	
125					24	14,411	-51.8		29	14,748	-61.6		28	15,141	-71.3		26	14,965	-66.5		29	14,717	-59.6		27	14,873	-64.2	
100					24	15,858	-51.3		26	16,125	-61.0		25	16,454	-74.4		24	16,310	-68.7		29	16,110	-60.0		23	16,221	-64.7	
80					23	17,309	-51.2		25	17,514	-60.1		23	17,747	-75.1		23	17,643	-67.0		26	17,498	-60.5		22	17,589	-63.9	
60					19	19,185	-51.6		25	19,309	-59.9		23	19,442	-67.9		18	19,395	-64.0		24	19,287	-59.5		21	19,360	-60.6	
50					18	20,360	-51.8		23	20,445	-59.3		23	20,552	-62.8		16	20,514	-61.5		23	20,429	-58.4		21	20,500	-58.7	
40					17	21,803	-52.5		19	21,854	-58.5		20	21,945	-58.9		14	21,899	-58.2		18	21,845	-57.9		20	21,904	-57.0	
30					12	23,700	-51.9		14	23,679	-57.9		17	23,763	-54.1		10	23,746	-54.7		13	23,633	-58.5		16	23,731	-55.5	
20													15	26,398	-48.5		5	26,368	-50.1		6	26,197	-57.8					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

NOVEMBER 1955

Standard pressure surface (mb)	NOME, ALASKA (1016 MB.)				*NORFOLK, VA. (1016 MB.)				NORTH PLATTE, NEBR. (917 MB.)				OAKLAND, CALIF. (1018 MB.)				OKLAHOMA CITY, OKLA. ([illegible] MB.)				OMAHA, NEBR. (968 MB.)				PHOENIX, ARIZ. (975 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	7	-11.3	77	15	9	8.7		[illegible]	[illegible]	- 2.4	71	[illegible]	6	12.0	75	[illegible]	[illegible]	[illegible]	51	[illegible]	[illegible]	0.1		[illegible]	341	16.0	42
1,000	30	131	-10.1	70	15	113	9.5		30	[illegible]			[illegible]	[illegible]	13.1	67	[illegible]	[illegible]			[illegible]	[illegible]			[illegible]	124		
950	30	534	-9.9	68	15	571	7.6		[illegible]	565			30	591	12.5	59	29	564	[illegible]	[illegible]	30	549	.8	51	30	[illegible]	19.3	25
900	30	943	-10.0	62	15	1,011	5.0		[illegible]	[illegible]	.1	[illegible]	[illegible]	1,039	10.9	52	[illegible]	1,012	8.9	[illegible]	[illegible]	[illegible]	.3	51	[illegible]	[illegible]	16.6	24
850	30	1,383	-10.7	53	15	1,476	3.5		30	1,452	.3	44	[illegible]	1,514	[illegible]	47	29	1,485	8.4	31	[illegible]	[illegible]	- .4	[illegible]	30	1,511	13.2	27
800	30	1,848	-11.9	19	15	[illegible]	2.5		[illegible]	1,936	- 1.6	43	[illegible]	2,014	[illegible]	43	[illegible]	1,984	7.3	29	30	1,924	- 1.8	49	[illegible]	[illegible]	9.7	31
750	30	2,346	-13.6	12	15	2,483	.8		[illegible]	2,449	- 3.4	[illegible]	30	2,545	4.0	42	29	2,522	4.8	[illegible]	[illegible]	2,442	- 3.6	[illegible]	30	2,558	6.6	31
700	30	2,862	-16.0	11	15	3,046	- 1.2		[illegible]	2,990	- 6.0	[illegible]	[illegible]	[illegible]	1.4	[illegible]	29	3,072	[illegible]	27	30	2,978	[illegible]	[illegible]	30	3,111	3.3	28
650	30	3,426	-18.8	38	15	3,631	- 4.4		[illegible]	3,570	[illegible]	40	[illegible]	3,701	- 2.1	37	29	3,672	- 1.5		[illegible]	3,556	[illegible]	[illegible]	30	3,712	- .3	25
600	30	4,009	-22.2	38	15	4,255	- 8.1		[illegible]	[illegible]	[illegible]	43	[illegible]	4,325	- 6.0	36	29	4,299	[illegible]		30	4,170	-12.5	46	30	4,344	- 4.3	[illegible]
550	30	4,647	-26.3	37	15	4,923	-12.6		[illegible]	4,838	-16.5	44	[illegible]	5,004	-10.4	[illegible]	[illegible]	4,977	- 9.2		29	4,839	-16.4	42	30	5,025	[illegible]	22
500	30	5,326	-30.8	36	15	5,646	-16.9		[illegible]	5,550	-20.9	43	[illegible]	5,728	-15.6	32	[illegible]	5,707	-14.3		29	5,545	-21.3	[illegible]	30	5,756	-13.4	
450	30	6,074	-36.1		15	6,434	-22.0		[illegible]	6,328	-26.0	[illegible]	29	6,524	-21.0	30	29	6,503	-20.1		29	6,322	-26.7	40	[illegible]	6,553	-19.3	
400	30	6,873	-41.6		15	7,286	-27.8		[illegible]	[illegible]	-32.0	39	29	7,376	27.5		29	7,358	-26.8		27	[illegible]	-33.5		30	7,413	-26.2	
350	30	7,766	-47.6		15	8,232	-34.2		[illegible]	8,092	-39.1		[illegible]	8,322	-35.0		29	8,305	-34.5		27	[illegible]	[illegible]		[illegible]	8,360	[illegible]	
300	30	8,770	-53.2		15	9,295	-41.3		30	9,130	-46.5		[illegible]	9,378	-43.4		29	9,361	-43.1		27	9,106	47.1		[illegible]	9,421	-42.1	
250	30	9,933	-56.2		15	10,508	-50.0		30	10,319	-53.6		29	10,579	-52.7		29	10,561	-51.8		26	10,297	-52.4		29	10,628	-51.2	
200	29	11,346	-55.3		15	11,937	-58.0		30	[illegible]	-58.3		[illegible]	11,991	-60.7		[illegible]	11,982	-59.3			11,724	-56.2		29	12,048	-59.7	
175	29	12,200	-53.8		15	12,772	-60.1		30	12,572	-59.0		29	12,816	-62.9		[illegible]	12,813	-61.3		25	12,570	-56.9		[illegible]	12,877	-62.0	
150	28	13,196	-53.1		15	13,731	-61.2		30	13,537	-59.3		29	13,764	-62.9		[illegible]	13,764	-63.0		[illegible]	13,545	-57.2		28	[illegible]	-64.1	
125	28	14,370	-53.0		14	14,843	-63.3		28	14,669	-59.8		28	14,881	-63.3		29	14,878	-65.3		22	[illegible]	-59.2		25	14,948	-65.8	
100	28	15,810	-52.2		11	16,217	-64.0		25	[illegible]	-60.2		26	16,254	-64.6		27	16,229	-66.4		20	16,089	-59.9		24	16,297	-67.9	
80	26	17,252	-51.9		8	17,567	-63.7		[illegible]	[illegible]	-59.9		24	17,613	-63.8		26	17,581	-65.1		18	17,488	-60.2		23	17,642	-66.8	
60	26	19,113	-52.5		8	19,333	-62.5		11	19,241	-59.0		22	19,384	[illegible]		26	19,344	-62.4		16	19,289	-59.2		22	19,390	-63.8	
50	24	20,294	-52.8		11	20,464	-60.2		8	20,388	-58.5		20	20,503	-60.8		22	20,469	-59.8		16	20,431	-59.0		20	20,516	-61.4	
40	22	21,734	-53.1		13	21,867	-59.2		6	21,799	-57.5		[illegible]	21,893	-59.0		20	21,869	-57.3		14	21,825	-58.3		18	21,908	-58.6	
30	11	23,632	-52.7		12	23,661	-57.7						13	23,711	-56.7		17	23,693	-55.5		11	23,641	-56.8		14	23,730	-55.2	
20													6	26,282	-53.5						6	26,243	-54.2					
15													5	28,140	-52.1													

	PITTSBURGH, PA. (974 MB.)				PORTLAND, ME (1010 MB.)				RAPID CITY, S. DAK. (903 MB.)				ST. CLOUD, MINN (976 MB.)				ST. PAUL, MINN (1011 MB.)				SAN ANTONIO, TEX (989 MB.)				SAN JUAN, P. R. (1012 MB.)			
SURFACE	30	353	3.7	71	30	20	2.1	79	30	966	- 1.8	69	30	316	- 5.3	75	30	10	1.0	86	30	243	15.7	56	30	19	25.0	81
1,000	30	139			30	97	2.8	73	30	150			30	120			30	94			30	149			30	130	25.2	76
950	30	560	3.5	66	30	514	.9	74	30	564			30	526	- 5.8	73	30	506	- 2.6	[illegible]	30	591	15.2	54	30	583	22.3	78
900	30	995	1.1	66	30	941	- 1.4	75	30	993			30	948	- 5.5	65	30	930	- 5.3	87	30	1,042	13.8	53	30	1,050	19.0	79
850	30	1,453	- .8	60	30	1,398	- 2.9	72	30	1,445	- 3.4	52	30	1,396	- 5.6	[illegible]	30	1,377	- 6.6	74	30	1,524	13.0	52	30	1,540	15.9	75
800	30	1,935	- 2.7	59	30	1,877	- 4.6	63	30	1,924	- 1.5	52	30	1,871	- 6.5	[illegible]	30	1,850	- 7.8	59	30	2,033	[illegible]	41	30	2,053	13.0	68
750	30	2,449	- 4.2	54	30	2,390	- 6.4	59	30	2,436	- 6.5	[illegible]	30	2,378	- 7.7	58	30	2,361	-10.2	56	30	2,578	9.9	36	30	2,601	11.5	48
700	30	2,987	- 6.2	52	30	2,921	- 8.8	59	30	2,967	- 9.5	51	30	2,909	- 9.8	56	30	2,878	-13.1	53	30	3,141	6.5	33	30	3,169	8.8	43
650	30	3,569	- 8.9	50	30	3,500	-11.2	56	30	3,539	-13.0	50	30	3,484	-12.3	56	30	3,451	-16.1	51	30	3,748	[illegible]	32	30	3,787	5.6	33
600	30	4,180	-12.1	47	30	4,103	-14.3	50	30	4,142	-16.4	51	30	4,086	-16.0	54	30	4,038	-19.6	49	30	4,387	[illegible]	[illegible]	30	4,430	2.1	
550	30	4,844	-16.0	45	29	4,763	-18.3	47	30	4,798	-20.4	50	30	4,741	-20.1	55	30	4,690	-23.6	45	30	5,070	- 6.1		30	5,128	- 1.6	
500	30	5,552	-20.7	39	29	5,467	-23.0	43	30	5,491	-24.8	50	30	5,437	-24.7	53	30	5,369	-27.5	42	30	5,812	-11.4		30	5,880	- 6.1	
450	30	6,329	-26.2	38	29	6,237	-28.4	42	30	6,256	-29.7	46	[illegible]	6,201	-30.1	49	30	6,132	-32.5	[illegible]	30	6,618	-17.2		30	6,706	-11.5	
400	30	7,164	-32.4		28	7,062	-34.5	45	30	7,080	-35.6	50	[illegible]	7,024	-36.3	[illegible]	30	6,940	-38.1		30	7,483	-23.8		30	7,589	-17.8	
350	29	8,088	-38.8		28	7,982	-40.5		30	7,995	-41.9		30	7,936	-42.8		30	7,847	-44.2		30	8,443	-31.0		30	8,573	-25.0	
300	28	9,129	-45.3		28	9,017	-46.7		30	9,023	-48.5		[illegible]	8,961	-48.8		30	8,865	-50.7		30	9,518	-39.2		30	9,673	-33.6	
250	28	10,327	-51.5		28	10,207	-52.4		28	10,204	-54.1		30	10,146	-52.5		26	10,049	-55.7		30	10,741	-48.2		30	10,926	-43.6	
200	27	11,766	-57.3		27	11,630	-55.4		26	11,622	-56.6		30	11,581	-54.2		26	11,469	-54.8		29	12,180	-58.0		30	12,388	-55.4	
175	27	12,606	-58.8		24	12,470	-55.8		26	12,466	-57.7		29	12,438	-53.7		26	12,324	-53.7		28	13,017	[illegible]		30	13,226	-61.8	
150	25	13,553	-59.6		22	13,445	-55.5		21	13,421	-57.4		29	13,427	-54.0		24	13,323	-53.0		27	13,957	-65.8		29	14,166	-68.6	
125	23	14,690	-60.5		20	14,597	-56.5		12	14,552	-57.2		29	14,594	-54.9		22	14,498	-52.2		24	15,050	-68.7		26	15,242	-73.5	
100	15	16 051	-60.6		19	16,007	-58.2						29	16,014	-56.4		18	15,944	-51.6		23	16,389	-69.9		22	16,529	-77.5	
80	9	17,447	-60.5		17	17,391	-58.4						29	17,429	-56.7		13	17,364	-50.7		22	17,708	-70.3		18	17,806	-78.1	
60	6	19,191	-59.2		15	19,193	-58.6						26	19,241	-57.7		9	19,227	-51.3		18	19,437	-65.4		15	19,488	-69.1	
50	6	20,335	-57.5		13	20,323	-59.5						23	20,391	-58.2		[illegible]	20,459	-51.8		17	20,551	-61.8		15	20,591	-63.7	
40					11	21,713	-58.4						21	21,795	-58.0						17	21,942	-58.5		14	21,973	-58.7	
30					10	23,520	-59.8						16	23,621	-57.3						16	23,765	-54.5		13	23,797	-54.3	
20													5	26,212	-55.0						5	26,400	-51.0		11	26,429	-48.4	

	SANTA MARIA, CALIF. (1008 MB.)				S. STE. MARIE, MICH. (985 MB.)				SPOKANE, WASH. (931 MB.)				TACUBAYA, MEXICO (773 MB.)				TAMPA, FLA. (1019 MB.)				TATOOSH ISLAND, WASH. (1009 MB.)				TOPEKA, KANS. (985 MB.)			
SURFACE	30	74	11.7	73	30	221	- 0.7	85	30	722	- 2.3	81	18	2,306	[illegible]	51	30	7	17.3	81	30	31	5.2	[illegible]	30	269	3.1	58
1,000	30	145	13.1	67	30	97			30	[illegible]			18	56			30	164	19.3	68	30	106			30	141		
950	30	579	14.9	46	30	506	- 1.9	75	30	567			18	516			30	607	17.2	63	30	528	3.4	76	30	561	4.9	43
900	30	1,034	13.3	39	30	935	- 4.1	76	30	992	[illegible]	74	18	991			30	1,065	14.8	61	30	961	.6	78	30	1,000	3.5	43
850	30	1,513	11.0	37	30	1,385	- 6.2	76	30	1,444	[illegible]	74	18	1,489			30	1,547	12.6	50	30	1,417	- 2.0	74	30	1,463	2.3	43
800	30	2,016	8.7	34	30	1,857	- 7.9	71	30	1,921	- 6.0	73	18	2,020			30	2,054	11.6	37	30	1,898	- 4.3	70	30	1,951	.8	40
750	30	2,552	6.4	32	30	2,360	- 9.9	66	30	2,432	- 8.7	[illegible]	18	2,567	14.7	53	30	2,599	9.5		30	2,408	- 6.8	64	30	2,477	- 1.6	41
700	30	3,111	3.5	32	30	2,887	-12.1	63	30	2,956	-11.3	64	18	3,147	10.4	58	30	3,162	[illegible]		30	2,940	- 9.9	55	30	3,015	- 3.7	38
650	29	3,718	.5	30	30	3,457	-14.5	59	30	3,530	-14.2	[illegible]	18	3,763	5.4	66	30	3,770	3.5		30	3,511	-13.1	52	30	3,600	- 6.7	37
600	29	4,351	- 3.7		29	4,053	-17.8	56	30	4,125	-17.7	58	18	4,408	.5	69	30	4,412	- .4		30	4,114	-16.4	50	30	4,218	-10.0	33
550	29	5,032	- 8.3		29	4,702	-21.6	51	30	4,776	-21.7	57	18	5,103	- 2.9		30	[illegible]	- 4.9		29	4,768	-19.9	48	30	4,885	-14.2	32
500	29	5,765	-13.5		29	5,395	-25.9	47	30	5,467	-25.9	[illegible]	18	5,852	- 6.9		29	5,846	[illegible]		29	5,468	-24.2	46	30	5,600	-19.4	34
450	29	6,567	-19.5		29	6,154	-30.9	46	30	6,231	-30.9	56	18	6,674	-12.1		28	[illegible]	-15.5		29	6,231	-28.9	46	30	6,382	-24.7	
400	29	7,422	-26.2		28	6,982	-36.3		30	7,049	-36.1	54	18	7,559	-18.1		27	7,525	-22.1		29	7,062	-34.2		30	7,221	-30.8	
350	29	8,372	-33.8		27	7,897	-42.4		29	7,951	-42.3		17	8,542	-25.4		27	8,492	-29.5		29	7,984	-40.2		30	8,154	-37.7	
300	29	9,432	-42.5		26	8,937	-48.9		29	8,978	-48.1		17	9,642	-34.0		27	9,574	-37.8		29	9,020	-46.4		30	9,199	-44.8	
250	29	10,637	-51.9		25	10,115	-53.1		29	10,164	-53.2		16	10,890	-44.4		27	10,805	-47.4		29	10,213	-52.4		30	10,397	-52.1	
200	29	12,052	-60.0		20	11,564	-54.8		29	11,586	-56.4		11	12,333	-56.5		27	12,247	-57.5		29	11,640	-56.0		30	11,819	-57.6	
175	29	12,879	-62.6		16	12,410	-54.1		29	12,432	-56.4		10	13,166	-62.5		27	13,079	-62.7		27	12,469	-55.6		30	12,659	-58.6	
150	29	13,825	-63.6		12	13,404	-54.4		28	13,408	-56.3		9	14,101	-69.1		27	14,018	-67.3		26	13,444	-55.4		28	13,628	-60.1	
125	29	14,938	-65.5		10	14,560	-55.1		28	14,564	-56.5						27	15,108	-70.1		21	14,575	-55.3		27	14,761	-61.5	
100	27	16,289	-65.7		10	15,978	-57.2		28	15,975	-56.9						25	16,428	-72.6		18	15,984	-54.9		23	16,130	-62.4	
80	24	17,646	-64.8		8	17,371	-57.6		26	17,378	-57.7						23	17,739	-72.8		18	17,407	-55.4		19	17,509	-61.6	
60	22	19,410	-62.7		7	19,187	-59.4		24	19,182	-57.2						21	19,448	66.5		15	19,262	-54.6		12	19,301	-59.9	
50	19	20,539	-61.2		6	20,329	-60.5		21	20,336	-58.3						21	20,561	-62.3		12	20,435	-54.6		11	20,439	-58.6	
40	17	21,936	-58.5						17	21,753	-56.9						20	21,951	-58.4		10	21,873	-55.4		10	21,846	-58.4	
30	15	23,766	-55.4						13	23,566	-58.2						18	23,782	-53.8		6	23,756	-54.0		6	23,672	-56.6	
20	5	26,381	-52.1						5	26,155	-58.2						7	26,430	-49.4									

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Standard pressure surface (mb)	WASHINGTON, D. C. (1006 MB.)				YAKUTAT, ALASKA (1010 MB.)				YUMA, ARIZ. (1002 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	88	6.8	63	30	12	- 3.1	73	28	105	19.7	30
1,000--	30	139	6.9	59	30	89			28	119		
950----	30	566	6.1	58	30	499	- 2.0	57	28	561	18.4	29
900----	30	1,003	4.1	58	30	925	- 4.5	60	28	1,020	15.4	30
850-	30	1,466	2.8	55	30	1,373	- 7.1	60	28	1,502	12.6	31
800 ---	30	1,956	1.2	55	30	1,843	- 9.7	60	28	2,007	9.7	29
750	30	2,482	- .8	52	30	2,345	-12.5	60	28	2,549	7.2	
700 - -	30	3,022	- 2.9	44	30	2,863	-15.3	56	28	3,105	4.4	
650----	30	3,612	- 5.5	35	30	3,427	-18.2	52	27	3,811	0.9	
600----	30	4,230	- 8.9	33	30	4,013	-21.5	51	27	4,346	- 3.4	
550-	30	4,903	-13.3	32	30	4,655	-25.2	46	27	5,028	8.3	
500----	30	5,617	-18.2		30	5,336	-29.3	41	27	5,759	-13.9	
450- -	30	6,405	-23.7		30	6,091	-33.9	40	27	6,555	-19.7	
400----	30	7,245	-29.8		30	6,897	-39.1		26	7,411	-26.3	
350----	30	8,182	-36.5		30	7,800	-45.3		26	8,361	-33.8	
300----	30	9,233	-43.6		28	8,811	-51.9		26	9,423	-42.0	
250 ---	30	10,436	-50.9		28	9,979	-55.8		26	10,632	-51.1	
200----	29	11,867	-57.8		28	11,405	-53.5		26	12,055	-59.2	
175----	29	12,703	-60.0		27	12,260	-52.7		25	12,884	-61.8	
150 ---	29	13,663	-60.4		26	13,255	-53.4		22	13,828	-63.8	
125----	28	14,788	-61.7		26	14,429	-52.9		11	14,928	-64.9	
100----	27	16,171	-62.3		26	15,867	-52.9					
80 ----	25	17,549	-62.1		25	17,306	-53.1					
60- ---	24	19,337	-59.5		23	19,163	-53.5					
50- ---	23	20,485	-58.2		19	20,357	-53.0					
40 ---	23	21,890	-57.2		15	21,819	-52.9					
30-----	19	23,714	-56.4		9	23,724	-51.9					
20---	8	26,335	54.8									

* Observations started November 15, 1953.

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for July 1955

Standard pressure surface (mb)	DENVER, COLO. (833 MB.)				FT. WORTH, TEX. (992 MB.)				OGDEN, UTAH (851 MB.)				RANTOUL, ILL. (989 MB.)				ROME, N. Y. (997 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	27	1,661	23.4	36	31	178	29.6	55	31	1,450	25.6	[illegible]	30	227	24.8	73	31	146	20.3	72
1,000--	27	22			31	104			31	7			30	123			31	123		
950---	27	493			31	567	28.0	55	31	476			30	580	25.3	67	31	575	22.4	60
900---	27	975			31	1,040	24.6	60	31	958			30	1,051	22.2	66	31	1,040	19.3	64
850---	27	1,484			31	1,538	20.5	67	31	1,462			30	1,546	19.1	65	31	1,529	16.0	66
800----	27	2,016	23.2	33	31	2,059	16.5	7.	31	1,993	22.6	27	30	2,065	15.8	64	31	2,042	12.9	61
750----	27	2,577	19.0	37	31	2,609	12.9	65	31	2,550	18.2	28	30	2,614	12.7	54	31	2,589	10.2	51
700---	27	3,161	14.2	43	31	3,183	9.4	61	31	3,135	13.3	32	30	3,186	9.1	53	31	3,154	7.3	45
650---	27	3,784	8.9	51	31	3,798	5.8	56	31	3,752	8.1	36	30	3,799	5.5	45	31	3,762	3.9	44
600---	27	4,438	3.6	56	31	4,444	1.9	50	31	4,407	2.7	41	30	4,447	1.7	38	31	4,406	.2	39
550----	27	5,136	- 1.9	59	31	5,142	- 2.2	47	31	5,102	- 2.9	45	30	5,147	- 2.2	35	31	5,099	- 3.7	34
500----	27	5,887	- 7.6	60	31	5,892	6.6	39	31	5,850	8.9	47	30	5,895	- 6.4	34	31	5,845	8.0	33
450----	26	6,708	-13.4	48	31	6,713	-11.6	35	3	6,661	-14.8	43	30	6,722	-11.6		31	6,668	-13.3	
400----	26	7,583	-19.8	40	31	7,600	-17.5	38	31	7,538	-20.6	36	30	7,604	-17.8		31	7,541	-19.4	
350 ---	26	8,559	-26.9		31	8,586	-24.4		30	8,511	-27.6		30	8,587	-25.1		31	8,520	-26.3	
300----	26	9,651	-35.1		31	9,689	-32.7		30	9,601	-35.7		30	9,687	-33.5		31	9,617	-34.3	
250----	26	10,895	-43.9		31	10,946	-42.8		29	10,841	-45.2		30	10,942	-43.0		31	10,867	-43.9	
200----	25	12,357	-53.8		31	12,412	-54.5		29	12,301	-53.6		30	12,410	-53.8		31	12,330	-54.5	
175----	25	13,204	-58.6		31	13,254	-60.5		29	13,152	-57.2		30	13,255	-59.3		31	13,175	-59.5	
150----	25	14,160	-63.1		31	14,200	-66.2		29	14,118	-60.7		30	14,209	-64.0		31	14,130	-63.5	
125----	24	15,268	-66.3		31	15,293	-69.6		28	15,242	-62.4		30	15,315	-67.1		31	15,245	-64.7	
100----	22	16,619	-65.6		27	16,625	-68.7		27	16,615	-62.4		30	16,658	-67.1		31	16,611	-63.2	
80-----	18	17,984	-62.1		25	17,970	-65.4		27	17,997	-60.2		27	18,014	-63.8		30	17,991	-61.5	
60-----	15	19,759	-59.7		19	19,735	-61.5		24	19,797	-57.6		27	19,792	-59.9		27	19,791	-58.0	
50-----	14	20,905	-57.3		19	20,873	-58.4		22	20,949	-55.7		27	20,934	-58.0		27	20,945	-55.9	
40-----	12	22,325	-54.5		16	22,287	-54.7		20	22,381	-53.2		27	22,349	-54.9		27	22,373	-53.4	
30-----	11	24,176	-51.3		16	24,141	-51.7		17	24,246	-50.3		25	24,208	-51.5		25	24,240	-50.6	
20-----	9	26,828	-47.2		10	26,797	-47.4		7	26,911	-46.0		15	26,848	-47.6		18	26,908	-46.7	
15-----	5	28,727	-45.5		5	28,730	-43.0		5	28,842	-43.4		7	28,772	-44.6		7	28,824	-44.9	

* August data for the above Air Force stations will be included in the December issue of this publication

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 10 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes, dynamic height (geopotential) in units of 98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

NOVEMBER 1955

Altitude (meters) m s l	Abilene, Tex. (534 m.)			Albany, N. Y. ([illegible] m.)			Albuquerque, N. Mex. (1,627 m.)			Athens, Ga. (216 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. D. (505 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			1/ Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	193	1.9	30	277	2.7	30	236	1.4	26	255	3.6	26	273	2.9	28	300	5.1	27	51	0.8	27	136	2.0	30	235	3.3	27	279	2.0	29	259	2.3	30	238	4.2
500	-	---	---	30	275	5.8	--	-	----	26	258	4.2	--	---	----	--	---	----	--	---	---	26	177	3.2	27	234	6.9	27	270	4.0	28	266	3.6	30	232	5.7
1,000	29	223	4.1	30	280	8.0	--	---	----	26	269	4.9		---	----	25	290	6.2	27	78	.8	19	198	6.7	26	247	10.7	18	296	4.6	28	280	6.3	24	235	8.8
1,500	29	226	5.0	30	286	10.6	--	---	----	26	278	7.4	26	265	6.9	23	297	8.2	27	259	2.8	13	226	6.3	26	256	12.2	11	291	5.9	28	281	8.8	21	262	10.3
2,000	28	247	7.0	30	287	11.9	30	254	2.9	25	279	10.3	25	277	8.9	20	299	10.8	26	266	6.5	10	265	5.1	26	264	12.9	10	294	10.5	27	282	10.5	19	269	12.7
2,500	27	251	9.0	30	284	12.9	28	270	5.5	25	281	12.9	20	281	12.4	18	305	12.8	17	284	8.4				26	264	13.6				24	272	11.9	12	276	14.1
3,000	27	262	10.9	30	284	14.2	28	274	7.9	24	275	15.2	17	285	15.2	18	299	13.4	10	290	10.6				25	265	15.0				24	276	13.5			
4,000	25	263	11.3	30	[illegible]	[illegible]	27	286	12.0	16	276	[illegible]	13	292	16.6	15	294	13.2							26	268	19.2				22	279	14.5			
5,000	23	267	[illegible]	30	275	23.3	26	283	15.7				12	294	21.3	13	285	15.3							28	272	21.4				21	280	17.0			
6,000	19	267	17.4	[illegible]	270	25.9	25	281	17.9				10	299	21.2	12	290	16.1							28	274	24.0				18	280	20.0			
8,000	11	292	13.9	[illegible]	268	35.1	19	259	17.4																27	270	29.9									
10,000				[illegible]	271	38.4	14	293	19.1																21	265	30.7									
12,000				21	270	33.6																			17	267	27.1									
14,000				13	268	31.0																														

Altitude (meters) m s l	El Paso, Tex. (1,198 m.)			Ely, Nev. (1,910 m.)			Grand Junction, Colo (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Little Rock, Ark. (88 m.)			Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)		
Surface	30	278	3.1	29	251	1.0	29	283	2.1	27	269	4.1	28	268	2.9	28	287	1.9	30	337	0.4	28	246	0.9	23	319	1.1	30	86	3.0	29	8	0.3	30	255	1.7
500	--	--	-	--	---	----	--	---	----	27	261	5.4	28	267	4.1	--	---	----	29	258	1.2	28	265	2.2	23	310	1.3	30	83	3.2	29	266	.7	30	232	3.0
1,000	--	---	----	--	---	----	--	---	--	24	275	6.5	27	270	6.0	28	269	4.4	29	263	3.4	27	268	3.8	23	225	1.4	30	77	2.0	28	301	1.9	29	242	5.3
1,500	30	271	3.4	--	---	----	29	282	2.1	16	285	9.9	27	284	9.5	27	274	7.1	28	279	5.8	26	286	7.0	20	230	3.9	27	19	.7	24	289	4.2	24	259	7.6
2,000	30	266	3.8	29	250	1.1	29	265	2.2	13	291	11.3	27	284	12.4	24	270	9.2	27	280	7.8	23	290	11.1	15	252	5.1	25	283	1.5	20	287	5.4	24	270	10.7
2,500	29	268	5.9	29	263	2.2	26	245	4.3	13	282	13.3	26	282	14.6	22	273	11.3	24	278	9.2	22	286	12.7	14	267	7.2	21	270	2.7	16	281	7.8	22	275	12.5
3,000	29	270	7.6	25	289	3.9	25	248	7.1	12	281	14.5	24	282	15.9	18	278	13.0	24	277	10.2	22	287	14.6	14	281	9.1	21	283	3.9	16	280	9.1	21	278	13.4
4,000	28	276	10.4	20	292	9.9	22	274	9.2	10	276	16.9	21	279	19.0	13	292	14.2	22	274	12.3	15	283	19.0	10	289	12.7	17	261	4.7	12	282	12.9	20	278	18.2
5,000	28	271	10.8	18	292	15.2	19	293	14.1				18	284	21.7				18	266	14.0	11	282	18.6				15	265	7.8	12	276	15.9	18	272	21.5
6,000	25	271	12.2	16	304	15.9	16	295	17.1				14	268	24.0				14	278	15.7							15	267	10.5				14	266	22.8
8,000	20	274	12.1	12	310	15.7	12	308	20.2				12	287	28.0													10	265	16.1						
10,000	15	268	18.0																																	
12,000	10	288	18.5																																	

Altitude (meters) m s l	2/ Oakland, Calif. (8 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (347 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			St. Louis, Mo. (181 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			3/ Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			4/ Topeka, Kans. (269 m.)			5/ Washington, D. C. (88 m.)		
Surface	29	257	1.5	30	312	2.9	30	268	1.1	28	341	2.7	27	285	2.8	27	250	1.9	28	144	0.9	28	262	2.6	30	268	1.0	22	203	2.0	30	294	2.4	30	279	2.5
500	29	325	1.7	30	310	3.4	30	241	.9	--	---	----	27	286	4.2	27	250	4.8	26	148	1.1	27	278	2.1	30	273	2.7	-	---	----	30	281	3.3	30	278	5.6
1,000	29	331	3.4	30	296	5.9	30	237	.9	26	342	2.7	16	268	5.7	25	255	7.3	28	140	1.1	26	163	.3	30	275	5.7	22	217	3.4	30	283	5.2	30	282	8.3
1,500	29	316	4.9	28	294	8.5	30	196	1.2	26	299	5.8	15	278	8.1	25	267	9.7	23	260	1.2	25	170	.9	30	272	6.8	18	233	6.6	30	282	8.3	30	279	9.8
2,000	29	310	6.3	25	293	11.1	30	225	1.7	26	295	8.5	14	277	8.6	24	279	14.2	20	256	5.5	22	317	1.1	30	273	7.3	17	246	8.8	29	281	11.3	30	284	12.3
2,500	29	303	7.6	23	295	13.3	30	252	2.8	26	302	10.9	13	274	10.4	23	277	16.3	18	260	7.8	22	322	3.2	30	276	9.1	13	255	9.9	28	283	14.4	29	280	14.4
3,000	29	302	8.5	22	295	14.3	28	281	3.8	25	305	12.3	13	282	12.4	21	276	16.5	18	261	9.4	21	331	3.7	30	272	10.5	11	257	11.0	28	279	16.0	29	279	16.2
4,000	29	300	11.5	20	283	18.7	26	284	6.9	23	300	14.8	11	290	16.6	18	278	18.3	13	264	10.9	21	317	4.6	29	274	12.5	10	283	13.2	28	271	20.0	29	277	20.7
5,000	29	295	13.6	15	286	22.9	26	280	8.7	15	302	19.4				14	276	21.7	12	272	11.2	20	310	4.8	29	277	15.8				28	270	24.4	30	280	25.0
6,000	29	299	14.5	14	293	26.9	25	282	9.8	12	306	21.2				10	278	29.7	11	286	11.4	19	290	5.7	28	276	18.4				28	269	27.5	30	277	28.8
8,000	29	299	18.1				21	294	11.3													16	308	9.0	29	275	23.0				27	269	34.2	20	271	34.8
10,000	28	300	21.9				18	302	11.3													15	309	9.7	24	275	28.9				23	265	37.0	28	275	36.9
12,000	27	291	22.1				13	279	16.1													10	320	12.4	22	278	25.8				18	263	36.5	25	277	40.0
14,000	27	282	18.4																						19	278	21.5				18	263	31.9	23	272	30.1
16,000	28	288	14.5																						14	265	16.9				16	263	30.2	16	271	22.9

1/ Rawin Data

2/ Rawin Data (Cont'd.)

18,000 m., 27 obs., 290 dir., 9.7 speed
20,000 m., 24 obs., 307 dir., 7.[illegible] speed
22,000 m., 21 obs., 316 dir., 4.6 speed
24,000 m., 19 obs., 305 dir., 5.0 speed
26,000 m., 13 obs., 289 dir., 9.2 speed

3. Rawin Data (Cont'd.)

18,000 m., 11 obs., 273 dir., 13.7 speed

4/ Rawin Data (Cont'd.)

18,000 m., 14 obs., 273 dir. 19.4 speed
20,000 m., 12 obs., 276 dir. 12.8 speed
22,000 m., 10 obs., 265 dir. 9.5 speed

5/ Rawin Data (Cont'd.)

18,000 m., 11 obs., 261 dir., 16.9 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Table 22

Altitude (meters) m s l	Albany, N. Y. (86 m.)			Albuquerque, N. Mex. (1,635 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Athens, Ga. (246 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (172 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
urface	29	284	1.9	30	163	0.6	29	36	0.8	25	55	3.8	30	265	1.6	29	112	0.1	30	308	3.6	30	191	0.5	29	219	2.5	30	40	2.5	30	278	2.4	30	232	2.1
00	29	292	5.9	--	---	--	27	19	3.6	25	107	3.7	30	269	3.6	28	290	1.2	--	---	---	29	158	4.7	26	244	6.8	30	97	2.7	30	292	4.7	30	262	5.1
,000	29	298	8.8	--	-	----	27	14	2.8	25	139	4.4	30	268	5.8	26	288	.9	30	311	7.6	29	176	5.8	26	255	10.4	30	161	2.0	30	305	5.6	30	271	6.4
,500	29	298	10.0	--	-	---	24	320	.4	24	173	2.5	30	276	7.7	25	286	1.1	29	306	9.1	30	182	4.6	28	258	11.1	30	221	3.0	30	305	5.8	30	271	8.1
,000	29	287	11.6	30	271	3.7	28	267	1.2	24	202	2.3	30	273	10.0	24	310	1.8	29	296	10.3	30	192	3.6	28	263	12.7	30	249	4.7	30	303	6.3	29	273	10.2
,500	29	290	13.1	30	279	5.9	29	294	2.0	24	265	2.9	30	278	12.5	25	300	3.5	28	291	11.6	30	213	3.3	28	268	13.8	30	264	6.3	29	294	6.7	29	275	10.4
,000	29	286	14.9	30	277	8.4	28	297	2.6	23	289	4.0	30	277	15.6	25	295	1.7	26	288	11.8	30	237	4.3	27	271	13.2	30	258	8.2	29	283	7.4	27	277	12.1
,000	29	279	19.2	27	288	10.2	28	300	3.9	22	295	6.4	29	271	18.8	23	289	3.9	25	280	14.2	30	257	5.7	27	270	16.2	25	260	9.9	27	275	8.0	25	275	14.4
,000	29	281	23.7	25	289	13.6	26	276	4.9	21	295	6.0	29	271	20.9	25	287	7.3	23	283	13.0	30	255	8.8	26	273	18.5	26	261	12.2	26	261	10.0	23	278	14.8
,000	28	271	25.1	21	292	12.6	26	275	7.0	19	330	7.1	26	269	24.2	23	282	7.3	21	274	16.6	29	262	10.5	25	272	22.1	25	263	14.2	24	270	11.9	22	278	17.8
,000	28	267	30.4	15	286	12.5	23	269	7.1	16	255	6.0	27	270	27.9	20	301	8.2	11	270	20.3	28	255	16.6	23	270	27.7	21	262	21.3	22	260	14.0	17	267	22.0
0,000	27	269	40.0	10	317	12.6	18	257	5.8	13	255	12.5	26	269	34.9	20	282	12.7				25	254	20.4	19	263	28.7	17	261	23.7	20	254	17.1	10	268	21.7
2,000	25	270	36.3				18	263	9.2	12	273	14.2	24	272	40.9	17	283	14.3				16	251	25.5	14	268	24.7				15	258	23.3			
4,000	25	264	29.9				16	275	9.5				19	271	33.6	15	278	16.0							13	273	17.3				14	263	15.6			
6,000	21	267	22.7				13	270	13.6				12	271	26.0	15	275	17.2							10	272	12.5				13	251	15.7			
8,000	16	260	21.6				12	271	17.9				10	265	18.5	15	276	20.3																		
0,000	10	254	10.8													12	283	22.9																		

Altitude (meters) m s l	Cold Bay, Alaska (27 m.)			Columbia, Mo. (237 m.)			El Paso, Tex. (1,195 m.)			Fairbanks, Alaska (135 m.)			Ft. Huachuca, Ariz. (1,428 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
urface	23	14	2.3	30	226	1.3	30	283	1.7	30	5	0.6	29	253	1.2	30	336	1.4	29	259	1.9	28	279	3.3	30	273	2.2	30	201	1.4	26	256	0.7	30	40	1.2
00	20	61	3.2	30	255	4.8	--	--	----	28	83	1.3	--	---	---	--	---	---	29	256	4.9	27	287	6.6	30	275	3.0	29	230	4.6	26	252	.8	30	88	3.8
,000	20	72	4.0	30	267	8.1	--	---	----	28	153	1.0	--	---	---	--	---	---	29	271	7.1	26	283	6.9	30	310	4.1	29	236	7.2	26	234	2.1	30	99	3.4
,500	20	79	2.7	30	275	10.8	30	264	2.7	28	249	1.4	29	239	1.6	30	332	1.2	28	273	8.0	26	278	7.5	30	308	4.9	29	271	8.3	26	238	5.0	30	118	1.5
,000	20	62	1.2	30	273	13.6	30	261	6.0	28	272	3.0	29	242	2.8	29	266	2.1	28	275	9.9	25	279	9.4	30	306	6.1	27	273	10.0	26	252	7.6	30	237	1.2
,500	20	115	.5	30	274	15.5	30	258	6.9	28	279	4.1	29	239	3.8	29	241	4.2	27	270	11.9	24	279	11.7	30	299	7.8	27	278	11.9	26	265	10.3	30	255	1.6
,000	20	49	.1	30	273	17.5	30	263	7.3	28	286	5.4	29	262	4.3	27	254	6.2	27	268	13.0	24	280	12.7	28	295	8.1	27	279	15.3	27	280	13.0	30	265	2.4
,000	19	250	2.5	30	274	20.4	29	271	9.8	28	278	5.5	29	271	6.1	27	276	10.7	26	265	15.8	21	273	15.9	28	295	9.9	25	275	16.5	26	283	16.7	30	266	4.6
,000	20	245	2.5	30	270	22.4	27	271	10.4	28	281	8.8	26	279	7.2	26	290	15.1	25	264	18.1	19	277	16.5	27	287	12.6	24	271	18.5	21	284	18.0	30	265	6.8
,000	20	267	4.2	30	271	26.8	25	272	9.7	25	271	9.2	25	281	10.8	19	304	17.8	23	261	20.3	13	278	17.1	27	287	15.5	22	275	20.6	17	274	18.8	30	263	8.9
,000	16	143	2.0	30	269	32.4	20	284	9.8	25	272	12.5	21	270	14.6	14	302	18.1	15	263	21.0				23	281	18.6	16	277	22.6	11	258	18.7	30	274	14.6
0,000	13	158	4.8	29	270	37.6	13	280	15.2	19	275	12.6	19	262	18.1										22	279	21.5	11	273	23.9				28	276	18.8
2,000	13	254	8.9	26	269	37.0				14	267	13.5	17	259	23.2										20	277	19.9							25	266	24.6
4,000				24	267	33.1				11	273	13.5													14	272	19.9							19	271	21.6
6,000				24	270	27.1				10	265	16.0																						15	274	11.4
8,000				22	265	17.6																												14	279	4.1
0,000				21	265	13.4																												14	80	3.8
2,000				18	259	12.8																												10	104	5.7
4,000				12	260	17.4																														

Altitude (meters) m s l	Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)			Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul, Is, Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
urface	30	149	0.7	28	326	3.0	30	227	1.7	30	59	2.6	30	300	0.9	30	143	0.9	30	325	3.0	28	296	2.1	26	34	4.8	30	84	1.2	30	80	3.4	30	357	0.5
00	--	---	----	27	296	6.7	30	230	4.7	27	159	1.0	29	325	2.7	28	169	1.6	-	---	---	28	284	3.1	22	42	5.0	29	119	3.5	29	78	7.8	30	24	4.3
,000	30	190	1.1	26	286	7.5	30	238	8.0	27	230	.6	29	339	2.8	25	274	2.1	30	325	3.0	28	287	5.8	22	47	4.0	29	156	3.1	29	79	7.5	29	15	4.9
,500	30	234	3.5	25	283	9.6	29	260	9.6	28	270	1.5	29	333	3.0	25	283	5.2	30	298	7.9	28	286	7.2	23	57	3.7	29	208	4.2	30	77	6.9	29	356	4.7
,000	30	252	5.5	23	276	10.1	29	268	12.0	29	285	3.1	29	319	4.6	26	285	7.1	30	291	9.4	28	282	7.1	22	68	3.5	29	226	5.7	30	72	6.1	29	347	6.1
,500	30	258	7.4	23	270	11.2	28	274	13.4	28	290	3.8	29	316	6.9	27	280	9.2	30	291	10.5	27	279	8.7	21	77	4.3	29	248	7.3	30	71	5.4	29	337	6.4
,000	29	262	7.6	22	278	11.1	29	275	14.7	28	291	4.4	30	310	9.2	27	270	11.3	30	287	11.3	27	277	10.4	22	72	3.4	29	256	8.6	30	73	5.0	28	334	7.0
,000	29	272	9.7	17	269	13.8	28	273	17.0	28	285	5.4	30	304	11.8	26	279	13.9	29	279	16.0	27	278	13.2	20	47	3.6	30	258	10.2	30	64	3.9	27	315	7.6
,000	28	273	9.8	13	286	11.0	23	271	18.8	26	287	6.3	30	300	13.6	26	281	16.8	28	281	20.2	26	278	14.3	20	313	.7	30	260	12.6	30	50	3.6	26	308	8.5
,000	28	269	11.9	11	279	11.0	17	265	20.1	25	276	8.5	29	295	15.3	24	276	18.3	27	279	23.2	23	278	14.1	21	251	2.9	29	266	13.2	30	37	3.5	24	299	7.6
,000	27	266	16.1							19	274	9.5	29	290	17.4	16	279	19.9	27	273	28.7	19	275	14.3	22	249	8.7	28	261	21.8	28	331	3.9	21	315	5.8
0,000	23	274	18.4							17	271	9.6	28	294	20.0	15	278	20.4	25	275	31.2	13	268	16.7	19	246	11.3	18	264	25.7	27	285	8.7	17	333	7.1
2,000	18	272	22.4							13	268	11.6	27	290	20.3	14	272	23.0	25	273	31.3	12	283	15.6	16	262	8.7	12	261	28.8	28	282	13.5	16	300	7.9
4,000	13	263	22.7							13	265	13.5	26	287	18.3	10	270	21.4	16	277	27.6	12	273	13.8	13	262	12.6				27	288	12.8	15	293	10.8
6,000	11	266	19.0							12	279	15.9	24	291	14.0	10	279	18.8				11	272	14.1							21	300	6.7	15	284	10.3
8,000										12	275	19.2	22	289	10.5							12	282	10.9							16	15	1.9	13	301	8.8
0,000										10	286	22.5	18	314	6.9							13	270	11.0							13	73	2.5	12	302	5.6
2,000													14	311	4.5							11	282	10.6							12	73	2.7	12	302	4.3
4,000													10	308	4.2																11	81	5.2	11	298	4.3

Altitude (meters) m s l	Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is., Wash. (31 m.)			Topeka, Kans. (269 m.)			Washington, D. C. (88 m.)			Yakutat, Alaska (12 m.)			Yuma, Ariz. (105 m.)		
	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
urface	29	284	0.9	30	169	1.3	30	123	4.3	30	276	1.1	30	276	2.3	29	99	3.4	29	215	0.3
00	29	268	2.0	--	---	----	25	201	4.0	30	271	3.2	30	279	6.4	28	115	5.2	29	321	2.1
000	29	270	4.3	30	198	3.4	25	221	6.3	30	275	6.9	30	286	9.1	26	136	3.5	29	313	2.0
500	28	267	7.1	30	232	5.7	26	235	8.5	30	279	10.8	30	288	10.2	26	123	2.1	29	298	1.7
000	28	269	8.1	30	246	8.0	27	252	9.5	30	286	11.1	30	291	11.7	27	118	1.9	29	289	2.3
500	28	278	9.7	29	260	9.0	28	263	11.3	30	286	13.0	30	286	12.7	27	81	.3	29	294	3.6
000	28	279	10.7	28	276	10.3	29	261	13.7	30	283	15.4	30	278	14.1	27	234	.6	29	300	4.5
000	28	278	13.7	28	279	13.8	29	270	16.3	30	275	18.0	30	274	18.9	28	306	5.0	28	304	5.4
000	28	278	15.3	28	281	17.6	26	271	21.5	30	276	21.5	30	270	22.8	26	314	7.5	28	292	7.2
000	28	280	18.9	28	281	20.3	26	276	24.7	30	277	24.4	30	270	27.0	26	316	10.8	28	285	7.8
000	25	276	23.0	23	289	24.3	22	275	30.0	29	279	28.7	30	268	32.1	21	293	8.5	27	278	11.7
,000	23	269	27.6	21	300	29.5	20	273	31.5	27	272	33.7	28	271	40.4	19	297	16.4	27	273	13.7
,000	16	266	25.0	20	295	24.6	17	281	26.2	25	272	33.7	24	275	40.0	14	295	11.6	27	276	17.7
,000				22	294	20.7	14	281	21.4	23	267	30.7	23	271	31.9	13	297	11.5	21	274	17.7
,000				21	287	15.5	13	290	15.5	19	267	24.8	21	271	27.0	13	303	15.2			
,000				22	291	13.4	11	293	9.5	12	273	17.8	19	266	16.1	12	312	13.9			
,000				16	303	9.6				10	263	12.5	19	264	11.8	10	313	14.3			
,000				14	300	8.6							20	263	12.0						
,000													15	261	14.1						

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°), speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for July 1955

Altitude (meters) m.s.l.	Denver, Colo. (1,661 m.)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul, Ill. (227 m.)			Rome, N. Y. (146 m.)		
	No of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	28	136	0.7	31	175	1.6	31	109	0.7	31	155	0.6	31	68	0.2
500	-	-	--	31	163	7.4	--	---	----	31	168	2.3	31	284	1.6
1,000	-	---	--	31	168	7.8	--	-	--	31	172	2.3	31	279	3.8
1,500	--	---	----	31	165	5.4	31	143	.9	31	193	1.4	31	275	6.1
2,000	27	157	1.3	31	177	4.2	31	205	3.4	31	197	.8	31	279	7.1
2,500	27	162	2.6	31	173	3.1	31	214	5.0	31	206	.2	31	286	6.7
3,000	27	155	3.0	31	175	2.1	31	220	6.2	31	334	.7	31	293	6.5
4,000	27	189	3.4	31	109	1.3	31	224	7.7	31	302	1.1	31	301	7.1
5,000	27	234	1.9	31	86	1.4	31	219	10.0	31	308	1.8	31	303	8.4
6,000	22	246	1.9	31	62	1.5	31	227	12.0	31	300	2.7	31	307	9.1
8,000	22	275	4.7	31	111	.8	30	237	15.2	31	275	4.9	31	310	12.6
10,000	21	254	7.8	31	225	.4	30	238	17.7	31	265	7.7	31	314	14.5
12,000	21	246	6.9	31	214	.9	29	241	19.2	31	259	9.8	31	309	16.4
14,000	21	229	6.5	31	130	1.2	29	234	16.0	31	282	6.3	31	312	15.3
16,000	17	168	3.2	28	78	5.8	27	220	9.4	31	357	3.5	30	331	8.9
18,000	12	123	3.4	24	90	7.8	27	163	4.0	28	63	4.1	28	356	4.5
20,000	12	93	5.4	19	92	10.6	24	109	5.4	28	76	6.8	26	40	4.1
22,000	10	85	8.1	16	90	14.9	20	105	7.5	28	82	9.1	26	61	6.2
24,000	10	87	9.2	16	96	16.8	17	96	9.3	26	90	11.0	24	82	9.4
26,000										16	85	12.5	20	90	10.7
28,000													10	87	13.0

* August data for the above Air Force stations will be included in the December issue of this publication.

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the **CLIMATOLOGICAL DATA, National Summary.**

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute for a surface normal to the direction of the sun

ALBUQUERQUE, N. MEX.

Date	A M 78.7°	A M 75.7°	A M 70.7°	A M 60.0°	0.0°	P M 60.0°	P M 70.7°	P M 75.7°	P M 78.7°
	Air mass 5.0	4.0	3.0	2.0	Noon	2.0	3.0	4.0	5.0
Nov.									
1	0.91	1.03	--	--	1.35				
2	.85	.97	1.08	1.23	1.33	1.26	1.12	[illegible]	[illegible]
3	.89	.99	1.10	1.24	K1.28	1.21	1.12	[illegible]	[illegible]
4	--	--	--	--	1.29	1.24	[illegible]	[illegible]	[illegible]
5	--	--	--	--	--	--	--	--	--
6	--	D.90	D.97	D1.22	1.31	1.19			
7	---	---	---	--	Cloudy	-			
8	.95	1.03	1.11	--					
9	----	-	--	---	Cloudy				
10	.97	1.05	1.15	1.27	1.33	[illegible]	[illegible]	1.07	[illegible]
11	.93	1.02	1.15	--	D1.23	--	--	--	--
12	---	-	--	-	Cloudy	--	--	--	--
13	-	--	--	--	Cloudy	-	--	--	--
14	.90	1.00	1.14	1.28	1.27	-	-		
15	---	--	---	--	Cloudy				
16	.93	.99	1.08	1.22	1.23	1.07			
17	.87	.96	1.05	1.16	1.22	1.16	[illegible]	[illegible]	-
18	--	-	.95	1.12	1.19	1.19	1.05	[illegible]	--
19	.92	1.00	1.11	1.21	1.25	1.20	1.07	[illegible]	[illegible]
20	.91	1.01	1.12	1.25	1.27	1.24	[illegible]	[illegible]	[illegible]
21	.90	.99	1.08	1.23	1.25				
22	---	----		--	Cloudy	-			
23	.95	1.04	1.15	1.26	1.25	[illegible]	1.09	[illegible]	[illegible]
24	.89	.98	1.10	1.24	1.24	--	1.11	[illegible]	.91
25	.96	1.04	1.16	--	-				
26	---	--	---	--	1.31	1.22	1.16	1.07	.99
27	----	----	---	--	--	1.23	1.11	1.02	.93
28	-	--	---	---	---	1.23	1.15	1.05	.97
29			--	---	Cloudy	--	--	----	--
30			-	-	Cloudy	--	--	--	--
Averages	.92	1.00	1.09	1.23	1.27	1.21	1.10	1.00	.90

MADISON, WIS.

Date	Air mass 5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
Nov.									
24	1.02	1.08	1.19	--	---	--	--	-	--
30	.93	1.03	1.19	--	---	---	1.19	-	--
Averages	.98	1.06	1.19				1.19		

* Extrapolated
K Smoke
D Dust
S Smoke aloft

TABLE MOUNTAIN, CALIF.

Date	A M 78.7°	A M 75.7°	A M 70.7°	A M 60.0°	0.0°	P M 60.0°	P M 70.7°	P M 75.7°	P M 78.7°
	Air mass 3.76	3.01	2.26	1.51	Noon	1.51	2.26	3.01	3.76
Nov.									
[illegible]				1.50					
[illegible]	--	--		1.49	--				
4	--	--	--	1.52	--	--	--	--	--
[illegible]	--	--	--	1.52	--	--	--	--	--
11				[illegible]					--
[illegible]	1.14	1.23	1.33	[illegible]					
19				1.47					
24				1.53					
26				1.54					
27	--	--	--	1.49	--	--	--	--	--
28	--	--	--	1.49	--	--	--	--	--
Averages	1.14	1.23	1.33	1.50					

BLUE HILL, MASS.

Date	Air mass 5.0	4.0	3.0	2.0	*0.97	2.0	3.0	4.0	5.0
Nov.									
8	[illegible]	0.86	0.99						
9	--	---	1.03	1.15	--	1.18	0.92	0.75	0.69
[illegible]	--	1.00	1.13	1.22	--	1.24	--	--	--
15	.90	.98	1.05	--	--	--	--	--	--
17	.96	1.02	1.15	--	--	--	1.02	.93	-
18	--	1.02	1.13	--	--	--	1.16	1.06	.97
20	--	--	--	--	--	--	1.15	1.01	.83
21							-		.83
22	--	1.02	1.13	--	--	--	--	--	--
24	.92	1.02	--	--	--	--	1.06	.97	.89
26	--	--	--	--	--	--	--	--	.74
30	.78	.91					1.04	.91	.83
Averages	[illegible]	.99	1.09	[illegible]		1.21	1.06	.94	.83

WASHINGTON, D. C. (WBCO)

Date	Air mass 4.96	3.97	2.98	1.99	Noon	1.99	2.98	3.97	4.96
Nov.									
1	--	--	-	1.20		S0.99	S0.76	S0.64	S0.54
9	--	----	--	[illegible]	1.50	1.38	--	--	--
17	--	--	1.23	1.36	1.39	1.37	1.14	[illegible]	.92
18	----	0.92	1.09	S1.27	1.31	--	--	--	--
21	--	--	1.01	--	--	--	--	--	--
29	S.72	S.89	S.91	--	[illegible]	--	--	--	--
30	.72	.86	.98	--	1.23	--	1.15	1.02	[illegible]
Averages	.72	.85	1.04	[illegible]	1.32	1.25	1.02	[illegible]	.79

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in Monthly Weather Review, volume [illegible], No. [illegible], March 1947, p. 47.

SOLAR RADIATION DATA

NOVEMBER 1955

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date-------	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys- --	12	12	63	51	50	47	35	43	36	40	22	51	8	44	49	36	28	73	53	61	31	51	48	49
Date---------	26	27	28	29	30	1	2																	
Langleys--------	50	49	20	46	45	44	20	39																

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date------------	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys--------	8	43	147	209	203	211	44	124	48	48	23	205	10	205	200	106	34	127	90	202	45	163	164	118
Date------------	26	27	28	29	30	1	2																	
Langleys- --- --	78	161	22	165	142	177	14	109																

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date------------	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys--- ----	---	---	---	340	510	509	144	(376)	145	208	25	459	13	446	575	267	36	483	300	368	34	465	285	281
Date------------	26	27	28	29	30	1	2																	
Langleys--------	358	507	26	535	343	595	22	341																

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date----- - - --	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys--------	7	52	100	124	204	152	115	108	138	153	24	123	8	200	206	122	32	250	183	131	38	209	78	132
Date----- ------	26	27	28	29	30	1	2																	
Langleys---------	197	169	38	175	164	185	14	135																

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date------------	5	6	7	8	9	10	11		12	13	14	15	16	17	18		19	20	21	22	23	24	25	
Langleys--- ----	18	82	137	109	61	51	89	78	75	90	37	92	14	64	47	60	55	73	78	100	54	64	89	73
Date------------	26	27	28	29	30	1	2																	
Langleys--------	88	64	32	52	81	47	37	57																

Note: Langley is the unit used to denote one gram calorie per square centimeter

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

NOVEMBER 1955

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	83	86	*58	61	59	76	*-17	80	52	*15	96	57	80	21	71	73	28	61	-46	17	31	40	*53	30	*-55	3	41	16	40	-21		32

* Estimated values owing to occurrence of rain during period. While rain is falling, radiation is assumed to be zero.

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the North Carolina State College at Raleigh. The instrument with which they were measured has not been checked by the Weather Bureau.

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys

	Aklavik, Mackenzie	Albrook Air Base Panama, C. Z.	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Dodge City, Kans.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grandby, Colo.	Grand Junction, Colo.	Great Falls, Mont.
1955																																	
Nov. 5------	19	536	414	51	477	239	361	11	105	148	20	178	14	305	590	38	396	375	311	354	249	79	(215)	444	129	82	400	322	400	189	195	237	220
Nov. 6------	46	598	414	15	389	92	337	8	99	269	87	182	85	287	686	47	410	188	349	229	66	141	174	439	309	79	160	341	396	124	397	357	37
Nov. 7------	25	468	158	2	177	221	313	7	88	269	191	338	156	---	---	99	195	326	339	167	126	197	109	396	361	19	414	337	280	186	397	357	253
Nov. 8------	7	338	407	36	314	85	369	6	124	199	222	111	173	44	(629)	39	160	139	---	405	114	266	166	408	349	45	275	348	251	123	342	339	90
Nov. 9------	15	259	344	37	141	51	322	6	---	---	280	219	223	208	510	133	349	98	203	363	59	294	55	422	322	43	365	304	49	201	140	167	91
Nov. 10------	15	298	402	108	201	66	81	9	12	108	269	142	207	482	658	189	63	96	293	376	185	266	175	436	338	48	405	312	183	161	74	322	---
Nov. 11------	24	393	387	164	434	---	379	5	10	216	114	148	97	459	(660)	57	380	163	240	376	168	144	166	428	256	22	401	317	370	137	142	247	154
Averages------	22	413	361	59	305	126	309	7	73	201	169	188	137	298	(622)	86	279	198	289	324	138	198	(151)	425	369	48	346	326	276	160	241	289	141
Nov. 12------	7	513	(301)	105	286	227	278	(5)	18	99	101	191	93	432	644	137	389	194	272	201	234	139	150	406	337	19	386	310	283	155	181	320	192
Nov. 13------	14	250	215	151	354	249	57	5	33	---	136	99	115	271	690	---	353	122	233	101	87	131	174	412	98	22	395	47	337	247	115	157	162
Nov. 14------	7	---	359	147	410	245	238	3	22	68	38	230	18	296	660	27	353	38	78	291	228	63	88	416	231	15	328	277	328	87	211	190	163
Nov. 15------	14	---	298	32	390	92	244	3	26	229	250	274	218	277	651	214	339	38	266	198	23	278	161	386	310	21	[illegible]	336	322	154	157	254	165
Nov. 16------	7	---	390	28	383	63	183	2	35	219	16	117	4	(245)	674	103	357	148	320	388	26	62	137	418	232	--	398	(79)	353	190	229	146	250
Nov. 17------	6	---	388	34	152	20	334	2	(76)	257	225	124	238	---	659	131	288	250	310	316	47	287	179	416	246	13	396	181	117	188	111	54	173
Nov. 18------	10	---	374	63	252	11	349	2	6	219	271	55	244	242	691	140	373	169	63	328	99	289	137	412	191	11	74	321	105	221	124	247	147
Averages------	9	---	(332)	80	318	129	241	(3)	(31)	182	148	156	133	(294)	667	125	350	137	220	260	106	178	147	410	235	17	311	(221)	263	177	167	200	179
Nov. 19------	6	---	379	106	152	162	257	2	17	168	56	45	---	87	---	154	87	64	225	348	140	89	99	411	290	21	346	311	171	152	310	282	132
Nov. 20------	8	---	379	113	428	81	352	1	33	196	234	45	230	356	692	82	378	257	281	350	174	228	61	395	159	13	396	62	366	175	307	91	103
Nov. 21------	9	---	363	123	396	90	347	1	38	153	184	166	159	306	670	165	380	153	270	326	109	189	136	(401)	114	15	(359)	318	331	51	335	75	109
Nov. 22------	7	---	250	91	344	44	290	1	38	130	182	105	174	402	620	--	358	155	217	252	126	202	(143)	386	236	25	284	195	288	151	223	53	128
Nov. 23------	5	---	372	86	336	80	56	0	12	234	60	42	44	309	682	211	334	32	296	275	17	---	94	398	207	26	260	196	308	143	338	282	114
Nov. 24------	2	---	372	119	257	15	254	1	41	126	215	199	168	160	637	79	(296)	264	251	297	224	253	102	398	309	21	267	327	230	161	346	263	168
Nov. 25------	2	---	349	119	330	30	29	1	19	198	170	62	141	117	662	168	---	182	282	338	105	---	100	313	299	21	375	304	296	101	297	304	181
Averages------	6	---	352	108	321	72	226	1	28	172	157	95	153	248	661	143	(306)	158	260	312	128	192	(105)	(386)	245	20	(323)	245	299	132	309	224	134
Nov. 26------	---	---	353	95	416	12	342	---	26	117	180	44	183	262	669	163	384	113	256	276	87	---	(136)	375	294	15	332	189	310	135	250	--	54
Nov. 27------	1	---	357	36	308	71	203	0	23	219	204	108	197	234	---	164	299	135	84	307	69	---	122	389	281	16	340	300	387	180	218	356	170
Nov. 28------	0	---	352	25	209	56	299	0	39	164	34	91	30	308	652	49	360	178	265	172	156	---	121	348	292	19	367	257	343	208	142	---	78
Nov. 29------	1	---	284	33	422	67	352	0	40	202	226	27	204	95	658	---	361	92	275	321	140	233	55	(334)	250	19	366	166	385	173	266	---	91
Nov. 30------	2	---	135	13	398	76	338	0	15	93	161	33	159	40	604	157	382	177	167	182	177	250	69	100	--	24	122	110	372	126	109	53	121
Dec. 1------	3	---	190	48	354	75	---	---	9	158	238	58	209	82	650	154	353	233	47	239	144	256	33	254	--	9	67	50	295	99	191	---	106
Dec. 2------	0	---	78	35	325	106	61	---	62	156	38	---	20	267	402	97	110	43	60	247	40	62	58	272	260	7	347	263	278	177	249	110	103
Averages------	1	---	250	41	347	66	266	0	31	159	155	60	143	184	606	131	321	139	165	249	116	200	(85)	(296)	275	16	276	191	329	157	204	--	103

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys -Continued NOVEMBER 1955

	Greensboro, N. C.	Griffin, Ga.	Hatteras, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Prosser 4 NE, Wash.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.
1955																																	
Nov. 5------	347	412	441	315	422	171	280	289	350	307	417	152	332	332	242	98	217	479	427	---	46	158	355	384	181	442	29	264	288	239	376	89	304
Nov. 6------	339	412	434	302	421	235	131	324	377	153	318	177	355	361	47	110	273	450	350	257	173	319	206	222	148	440	63	239	288	214	410	138	366
Nov. 7------	156	275	349	278	424	68	457	339	371	138	425	330	360	364	106	8	268	456	276	365	207	71	371	311	113	437	172	262	307	229	396	110	403
Nov. 8------	312	393	314	65	425	57	154	173	382	85	320	255	364	354	63	82	227	461	312	278	255	254	307	402	96	440	158	224	277	179	405	149	106
Nov. 9------	326	370	336	201	403	93	109	189	364	229	421	312	346	336	150	98	229	134	353	348	282	265	372	347	194	421	263	116	282	104	392	54	136
Nov. 10------	39	97	42	192	417	162	432	286	368	262	123	311	339	331	185	65	195	165	401	257	237	124	73	367	110	424	268	228	145	199	381	190	431
Nov. 11------	305	405	329	208	416	137	412	151	349	250	382	308	94	142	226	19	172	400	377	342	169	293	324	367	61	416	136	152	52	139	230	104	432
Averages------	261	338	321	223	418	132	282	250	366	203	344	263	313	317	145	68	226	364	357	308	196	212	287	343	129	431	156	212	234	186	370	119	311
Nov. 12------	318	344	412	133	413	142	299	310	350	197	136	244	260	259	218	17	184	274	390	156	172	253	141	356	194	404	143	237	181	218	222	96	250
Nov. 13------	250	76	390	131	319	53	285	312	203	117	258	184	252	221	39	17	122	400	333	159	89	109	55	301	217	146	252	92	217	72	189	114	300
Nov. 14------	109	236	278	38	357	18	314	187	322	104	186	120	334	264	192	19	175	356	453	130	47	135	79	335	43	161	22	268	134	208	344	91	544
Nov. 15------	282	296	(373)	116	397	85	239	295	365	92	116	141	365	365	29	26	181	406	301	187	268	206	125	338	160	410	219	258	205	215	374	136	208
Nov. 16------	266	247	(357)	92	313	98	131	312	194	200	54	284	195	210	207	17	82	412	406	95	25	16	115	384	15	404	22	109	292	105	233	119	379
Nov. 17------	316	416	(222)	295	401	207	403	354	139	265	390	310	126	153	113	25	88	327	354	333	271	273	363	367	82	235	237	69	232	73	112	121	307
Nov. 18------	288	377	(345)	86	376	95	212	314	337	90	224	32	318	328	81	70	81	305	390	117	272	291	254	215	148	389	246	97	243	78	362	136	100
Averages------	261	284	(340)	127	368	100	269	298	273	152	195	188	264	257	126	27	130	354	375	168	164	183	162	328	123	307	163	161	215	138	262	116	298
Nov. 19------	111	309	---	103	367	50	---	263	331	224	31	274	338	335	---	67	19	370	377	116	50	2	74	344	95	394	71	88	202	92	360	131	387
Nov. 20------	293	383	349	---	---	118	---	294	271	248	357	297	169	254	161	76	30	412	377	320	238	283	317	341	170	389	111	98	203	113	285	206	401
Nov. 21------	291	381	(356)	248	---	148	---	---	---	155	349	286	150	77	110	61	139	325	312	324	175	226	328	323	85	223	100	117	133	114	116	106	132
Nov. 22------	259	285	---	166	374	137	---	180	---	143	298	140	322	330	75	65	166	314	298	176	209	222	229	242	221	372	231	163	220	118	---	43	212
Nov. 23------	85	75	336	11	368	37	---	277	317	179	71	266	316	319	225	69	111	406	349	72	75	74	101	333	35	381	96	119	113	133	354	227	282
Nov. 24------	281	278	---	256	370	227	---	---	332	252	361	201	322	328	214	62	189	400	333	315	236	244	348	296	114	380	177	112	205	75	353	173	109
Nov. 25------	34	29	103	224	341	127	---	262	313	131	300	269	218	190	103	75	130	410	361	167	185	134	31	343	209	197	206	---	202	152	174	218	389
Averages------	194	249	(286)	168	364	120	---	255	313	190	252	247	262	262	148	68	112	377	344	213	167	169	204	317	133	334	142	116	183	114	274	158	273
Nov. 26------	279	367	222	---	355	45	---	131	319	213	308	197	319	335	159	60	91	291	298	266	206	236	308	221	171	371	206	---	87	28	356	127	252
Nov. 27------	220	261	327	158	345	106	---	204	310	74	279	323	305	313	78	23	57	326	343	196	233	177	255	286	126	366	217	---	255	121	339	144	322
Nov. 28------	261	326	255	184	330	13	---	268	311	196	263	236	185	235	164	43	50	302	366	306	60	146	344	342	81	361	29	49	210	90	278	---	407
Nov. 29------	279	382	360	162	301	160	---	133	293	259	244	274	75	80	200	41	94	397	355	298	228	219	323	316	140	207	202	38	252	98	62	197	391
Nov. 30------	277	362	363	269	339	81	---	252	299	264	307	246	103	32	236	11	51	322	68	257	208	234	303	95	166	311	198	42	231	73	47	188	41
Dec. 1------	265	323	350	81	198	233	---	240	87	92	163	12	37	14	50	29	106	415	321	72	241	240	220	63	180	220	221	74	204	---	29	118	124
Dec. 2------	250	75	73	30	348	22	128	146	247	28	42	101	321	291	51	18	107	223	254	51	39	40	22	199	57	148	53	89	65	---	319	83	312
Averages------	261	299	279	147	317	94	---	196	267	161	229	198	192	186	134	32	79	325	286	207	174	185	254	217	131	284	161	58	186	---	204	143	264

Note.- Langley is the unit used to denote one gram calorie per square centimeter.

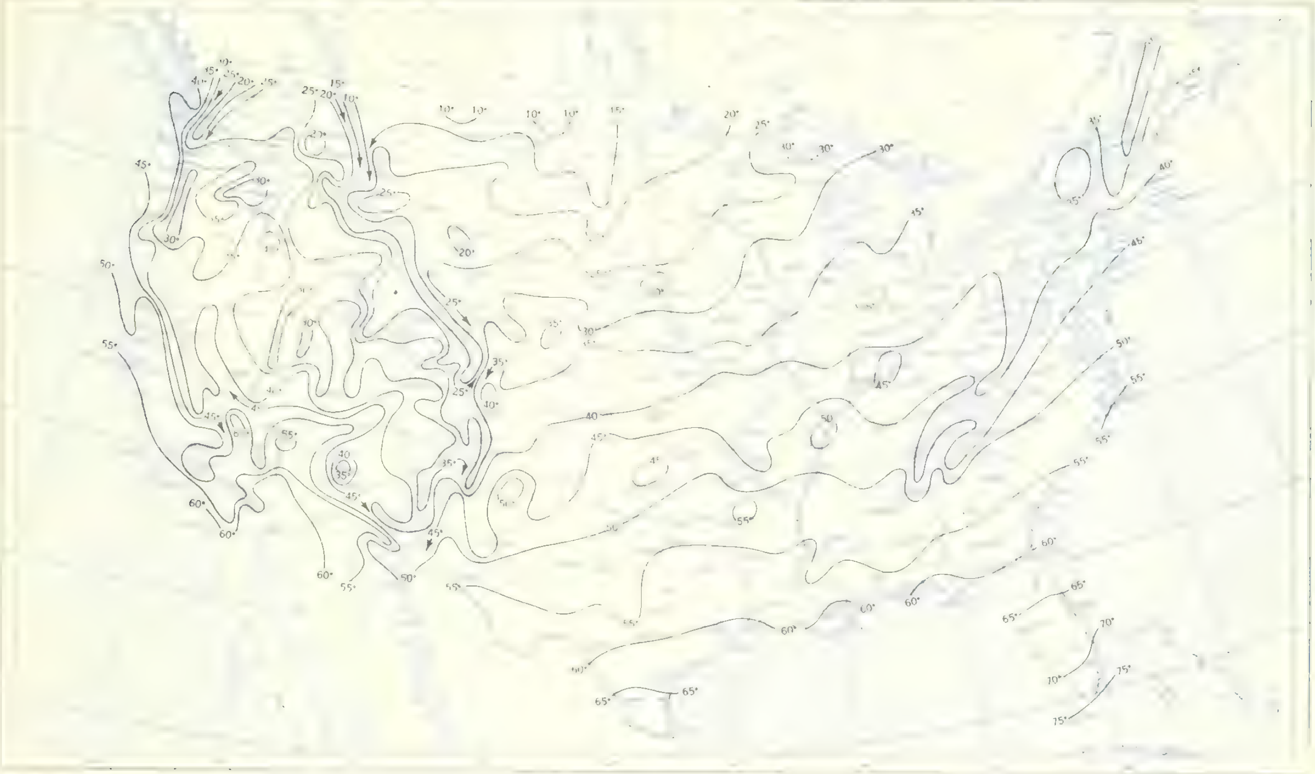
SOLAR RADIATION DATA

Table 33.-Daily totals and average daily totals by weeks of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued NOVEMBER 1955

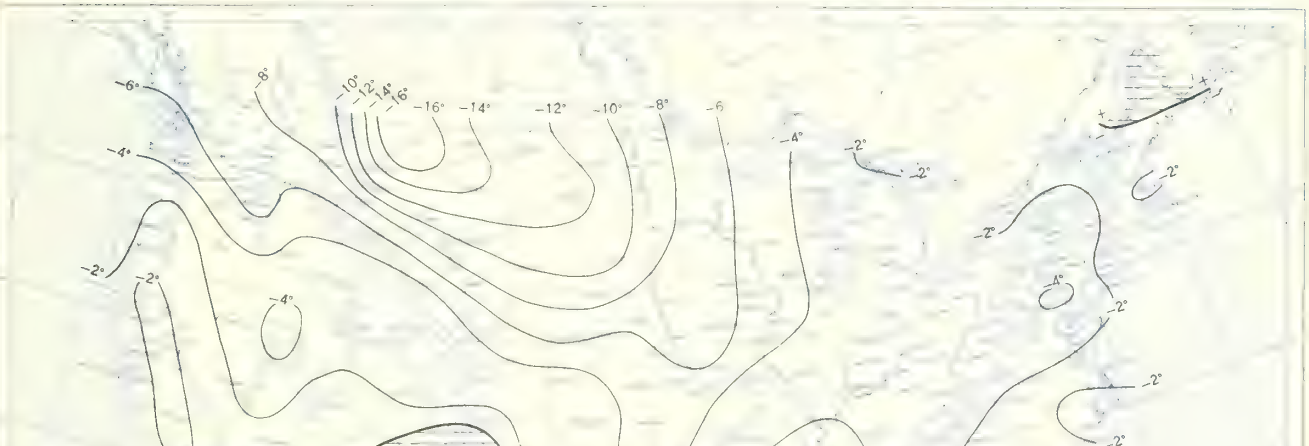
	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (WBAS)	Seattle, Wash. (U. of W.)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Toronto, Ontario	Tucson, Ariz.	Upton, N. Y.	Wake Island, Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
1955																	
Nov. 5------	372	176	136	43	304	198	167	228	186	386	485	164	414	---	417	332	76
Nov. 6------	379	12	333	100	315	(53)	41	131	268	123	464	195	423	---	622	326	112
Nov. 7------	378	54	135	95	53	169	121	203	84	191	355	55	420	(143)	631	47	123
Nov. 8------	377	179	263	158	256	49	32	36	117	401	399	108	434	---	571	245	214
Nov. 9------	370	148	287	74	281	68	21	31	180	284	110	94	406	272	594	314	103
Nov. 10------	372	33	180	200	100	43	40	215	60	370	173	99	408	184	608	88	200
Nov. 11------	240	42	281	98	283	57	63	124	124	361	395	46	402	217	583	316	111
Averages------	356	92	231	110	227	(91)	69	138	146	302	340	109	415	(204)	575	238	134
Nov. 12------	375	95	226	132	265	170	155	---	174	356	431	216	365	217	438	290	174
Nov. 13------	132	104	124	153	212	222	186	---	159	---	429	145	281	132	537	200	(218)
Nov. 14------	271	73	132	54	179	206	167	96	17	334	433	124	339	---	633	215	104
Nov. 15------	368	31	278	165	189	147	109	---	63	333	415	43	307	---	505	165	67
Nov. 16------	193	21	18	20	145	109	132	---	40	386	427	29	393	(26)	602	133	105
Nov. 17------	325	97	281	118	287	35	21	---	223	356	379	130	381	280	---	312	116
Nov. 18------	347	85	276	222	269	25	20	---	77	164	387	109	371	289	511	292	114
Averages------	287	72	191	123	221	131	113	---	107	322	414	114	348	(189)	538	229	(128)
Nov. 19------	337	260	17	85	24	(101)	94	---	46	352	407	71	374	31	506	31	117
Nov. 20------	112	28	320	154	288	85	51	---	268	341	446	170	365	295	522	300	188
Nov. 21------	282	70	206	159	242	61	63	---	108	326	408	163	328	189	537	273	88
Nov. 22------	336	56	236	208	243	80	60	---	202	237	396	117	368	198	515	251	59
Nov. 23------	325	32	94	71	160	40	38	67	48	331	401	28	361	91	528	164	185
Nov. 24------	342	149	258	170	247	21	18	55	215	276	382	100	369	(244)	526	270	132
Nov. 25------	340	124	133	77	105	40	64	120	132	339	401	101	174	153	538	49	99
Averages------	296	103	181	132	187	(61)	55	---	146	315	406	107	334	(171)	525	191	124
Nov. 26------	(345)	133	259	191	235	28	20	62	104	294	239	49	317	241	548	277	72
Nov. 27------	327	39	161	123	211	64	16	57	123	263	288	79	345	169	460	244	125
Nov. 28------	(209)	(172)	120	36	200	103	67	59	139	183	317	164	339	123	540	180	166
Nov. 29------	83	121	225	178	215	49	35	66	123	320	436	190	269	---	527	260	158
Nov. 30------	272	186	229	155	241	23	19	41	156	87	419	150	190	---	533	267	154
Dec. 1------	(43)	56	273	200	241	29	23	64	161	35	396	96	282	250	---	252	60
Dec. 2------	304	83	22	44	32	60	46	47	18	160	340	18	89	---	---	28	113
Averages------	(226)	(113)	184	132	196	51	32	105	118	192	348	107	262	196	522	215	121

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Chart I. A. Average Temperature (°F.) at Surface, November 1955.



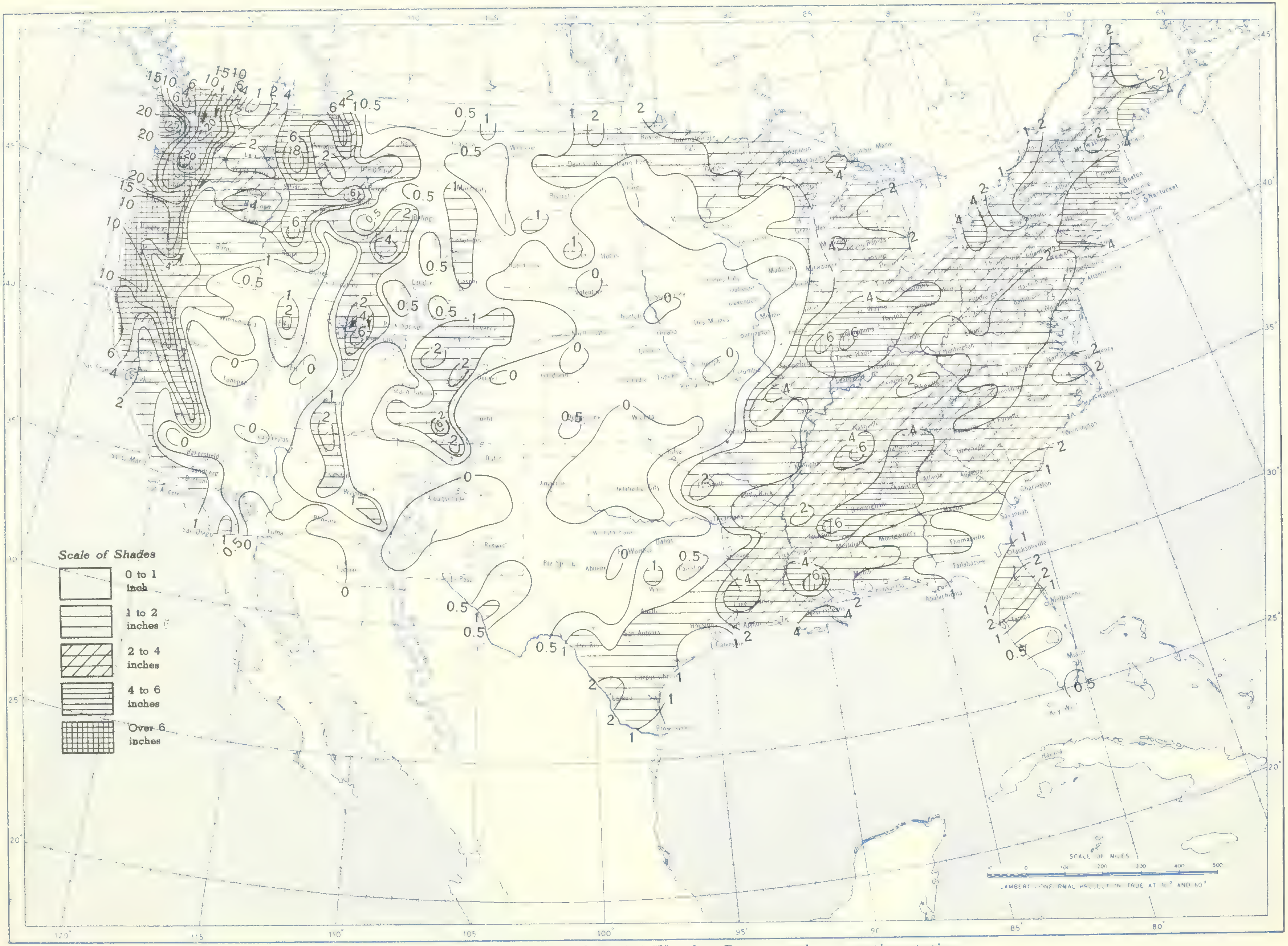
B. Departure of Average Temperature from Normal (°F.), November 1955.



A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

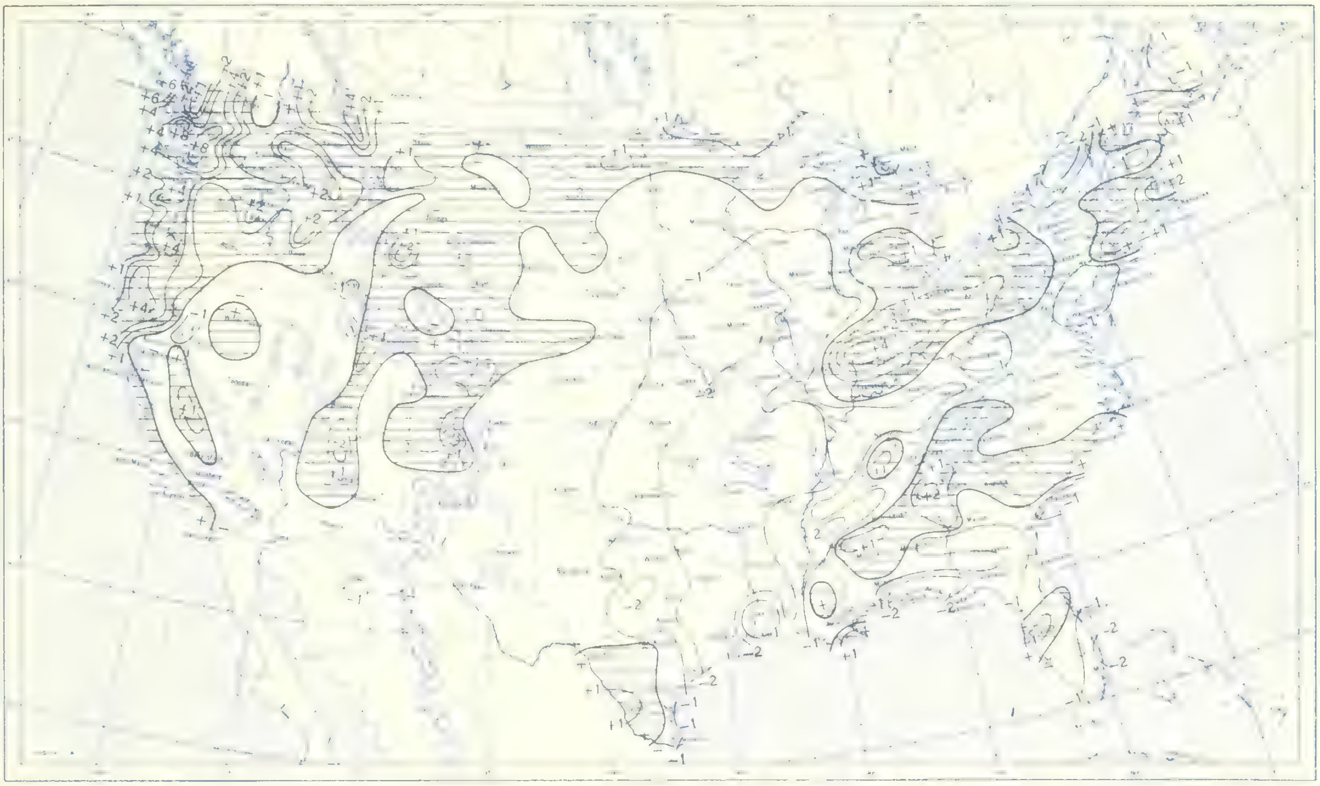
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), November 1955.

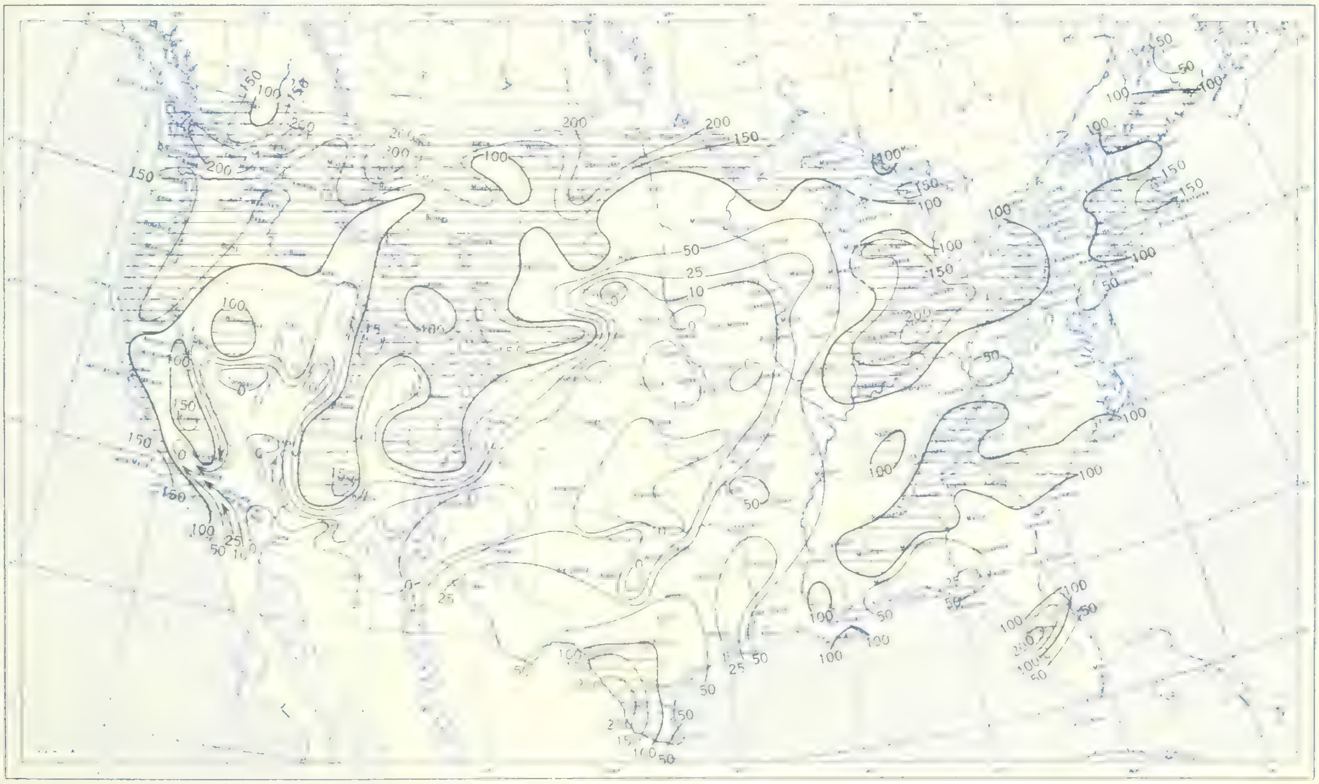


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), November 1955.

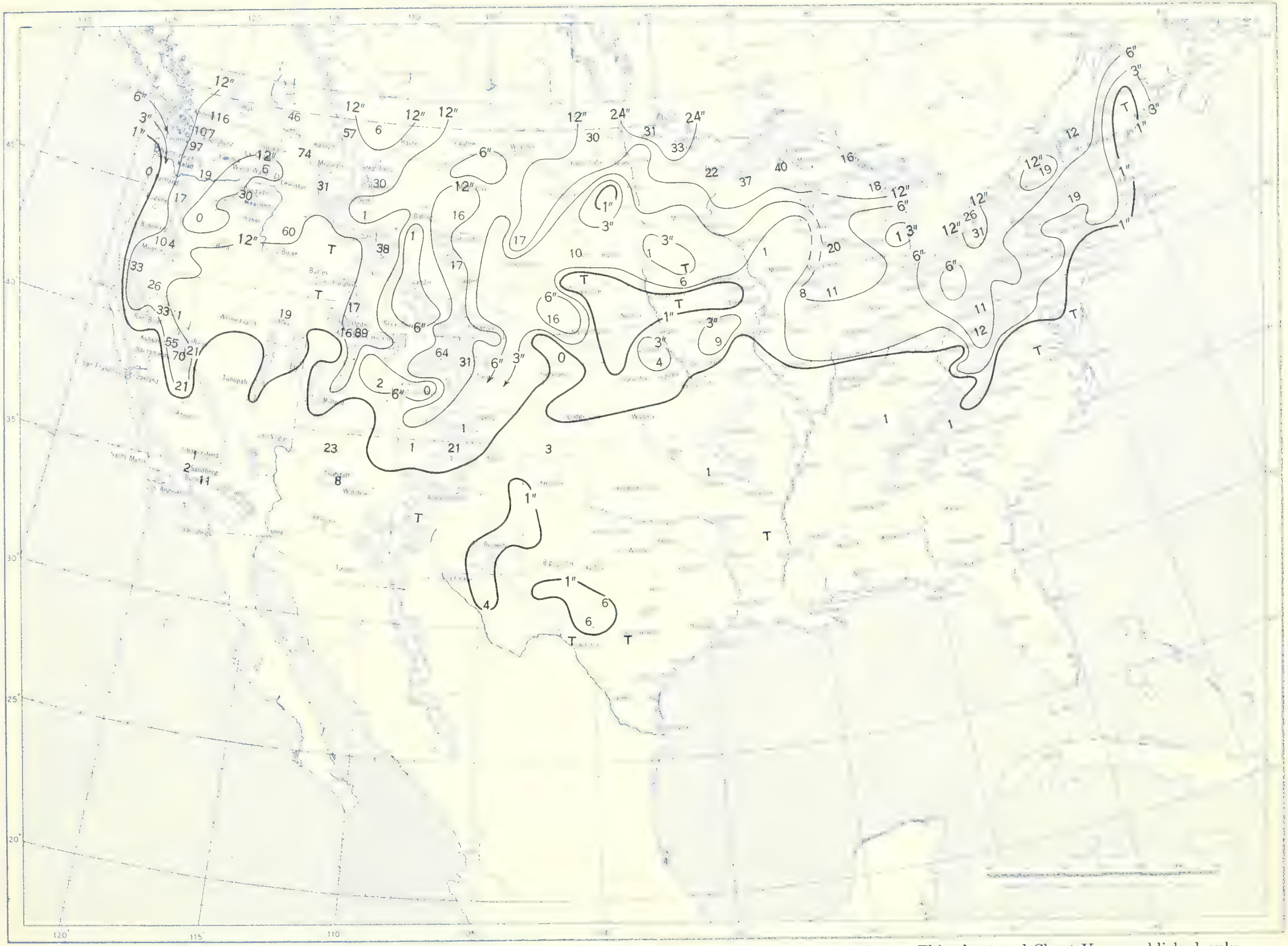


B. Percentage of Normal Precipitation, November 1955.



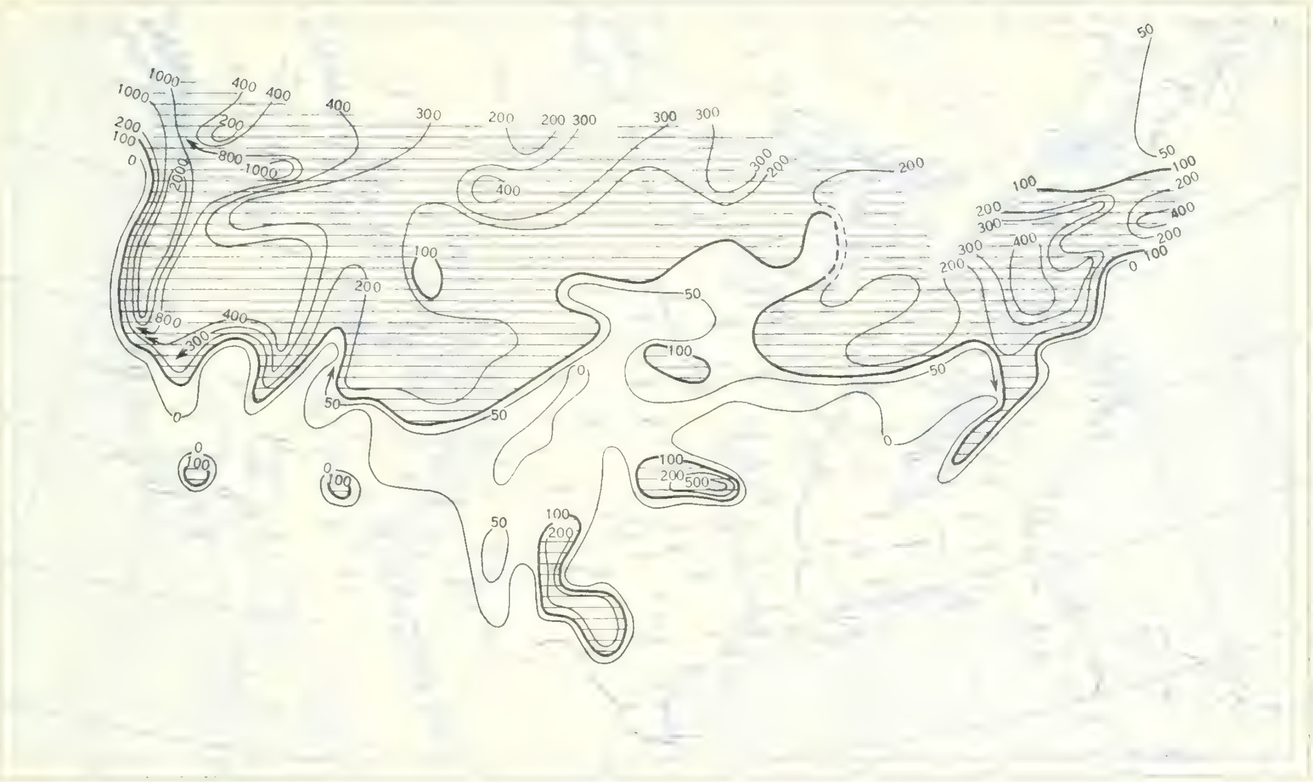
Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart IV. Total Snowfall (Inches), November 1955.



This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

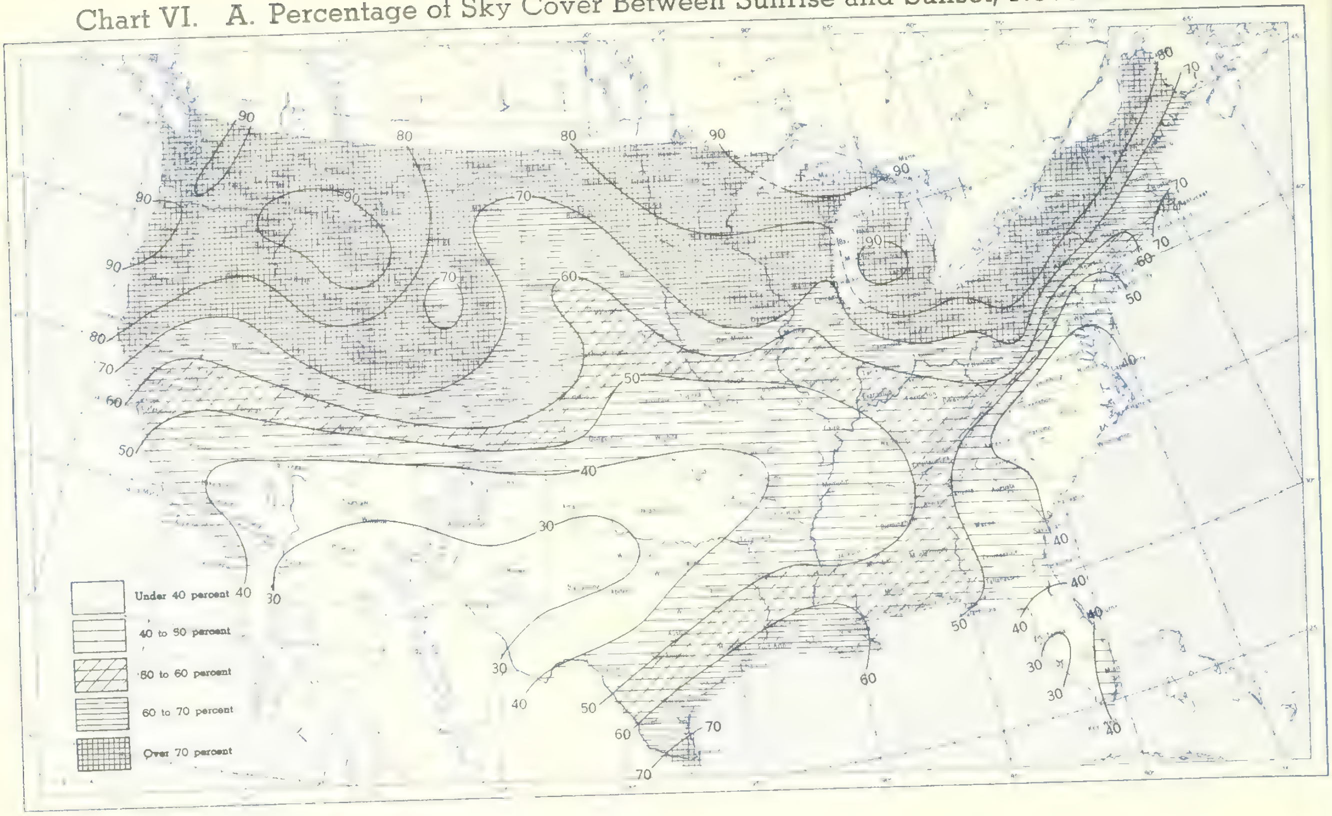
Chart V. A. Percentage of Normal Snowfall, November 1955.



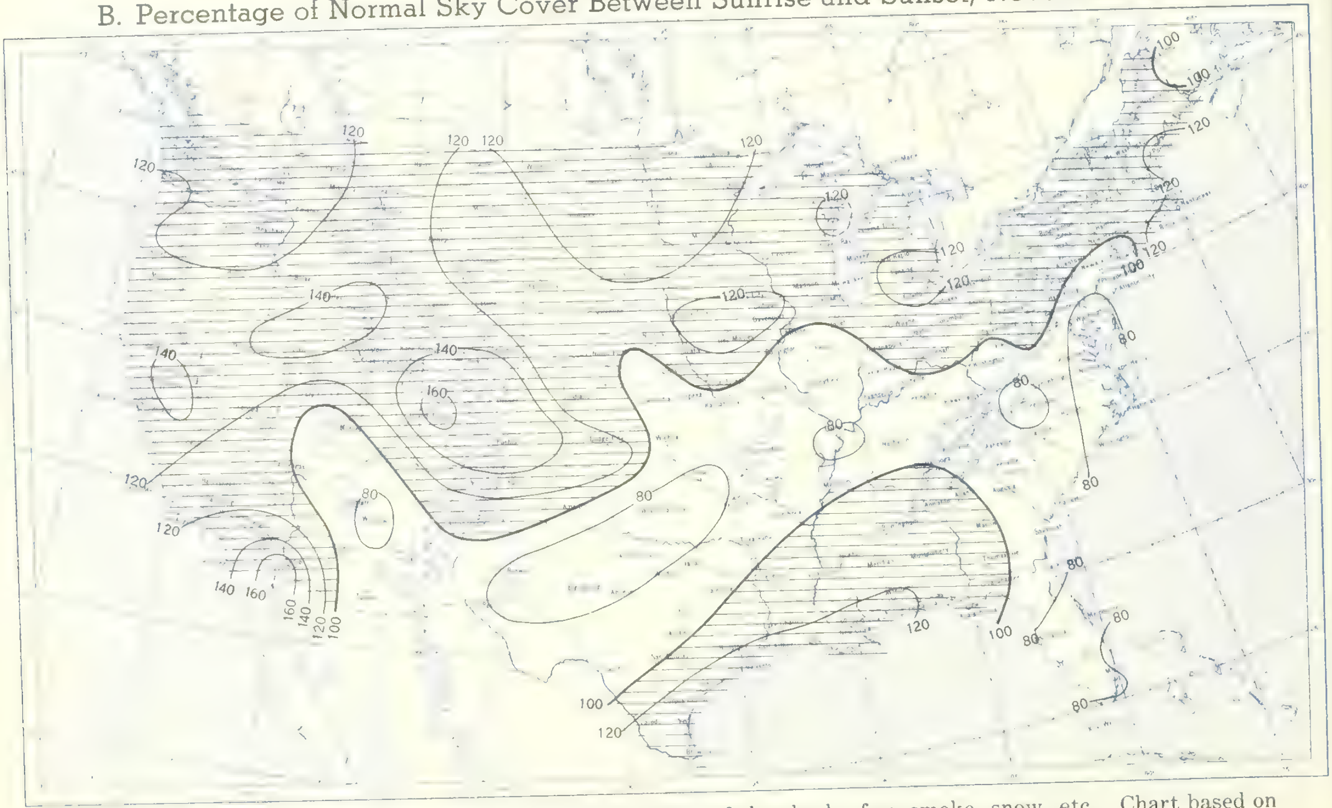
B. Depth of Snow on Ground (Inches).

A. Amount of normal monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:30 a. m. E. S. T., of the Tuesday nearest the end of the month. It is based on reports from Weather Bureau and cooperative stations. Dashed line shows greatest southern extent of snowcover during month.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, November 1955.

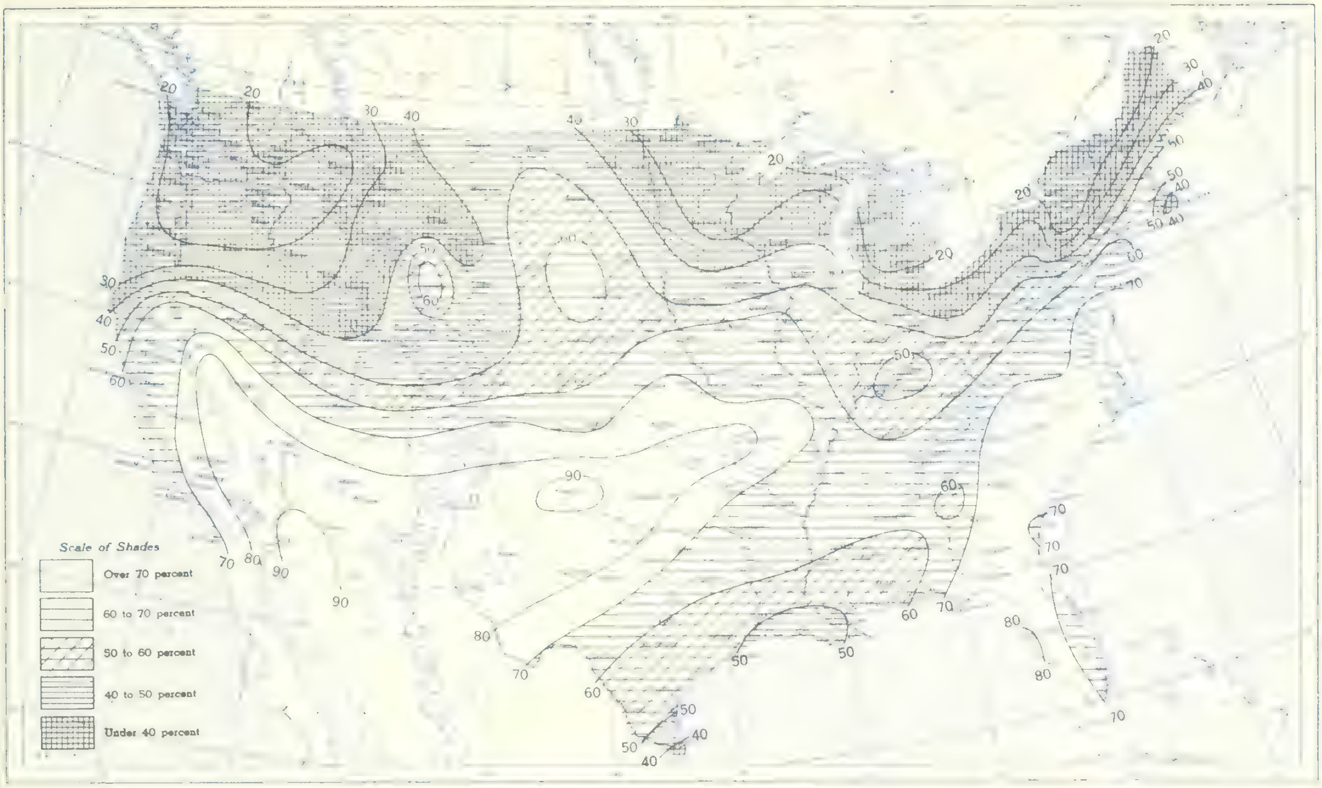


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, November 1955.

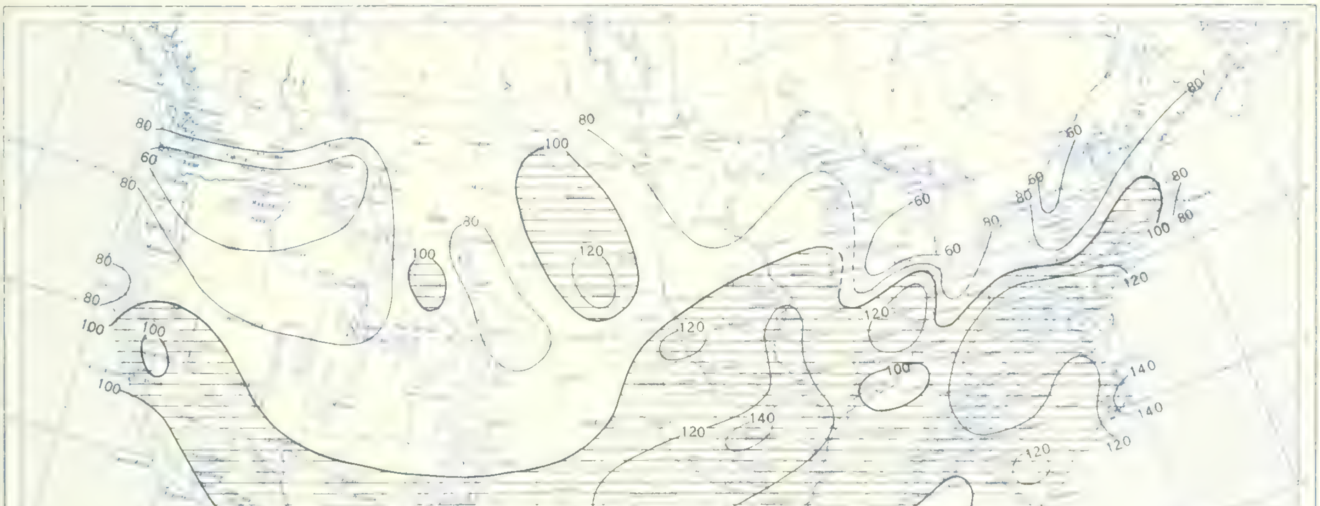


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, November 1955.

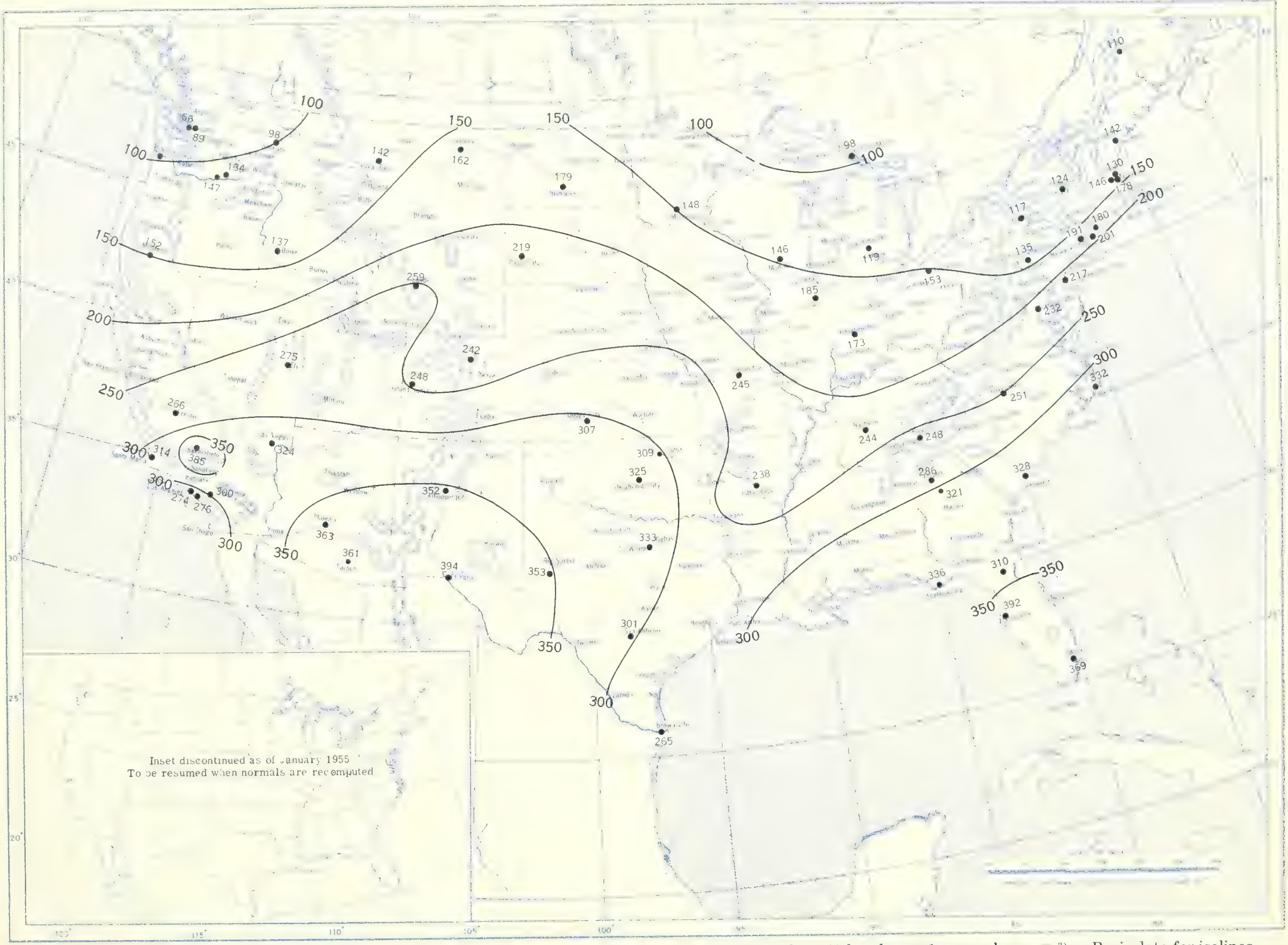


B. Percentage of Normal Sunshine, November 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, November 1955. Inset: Percentage of Normal Average Daily Solar Radiation.

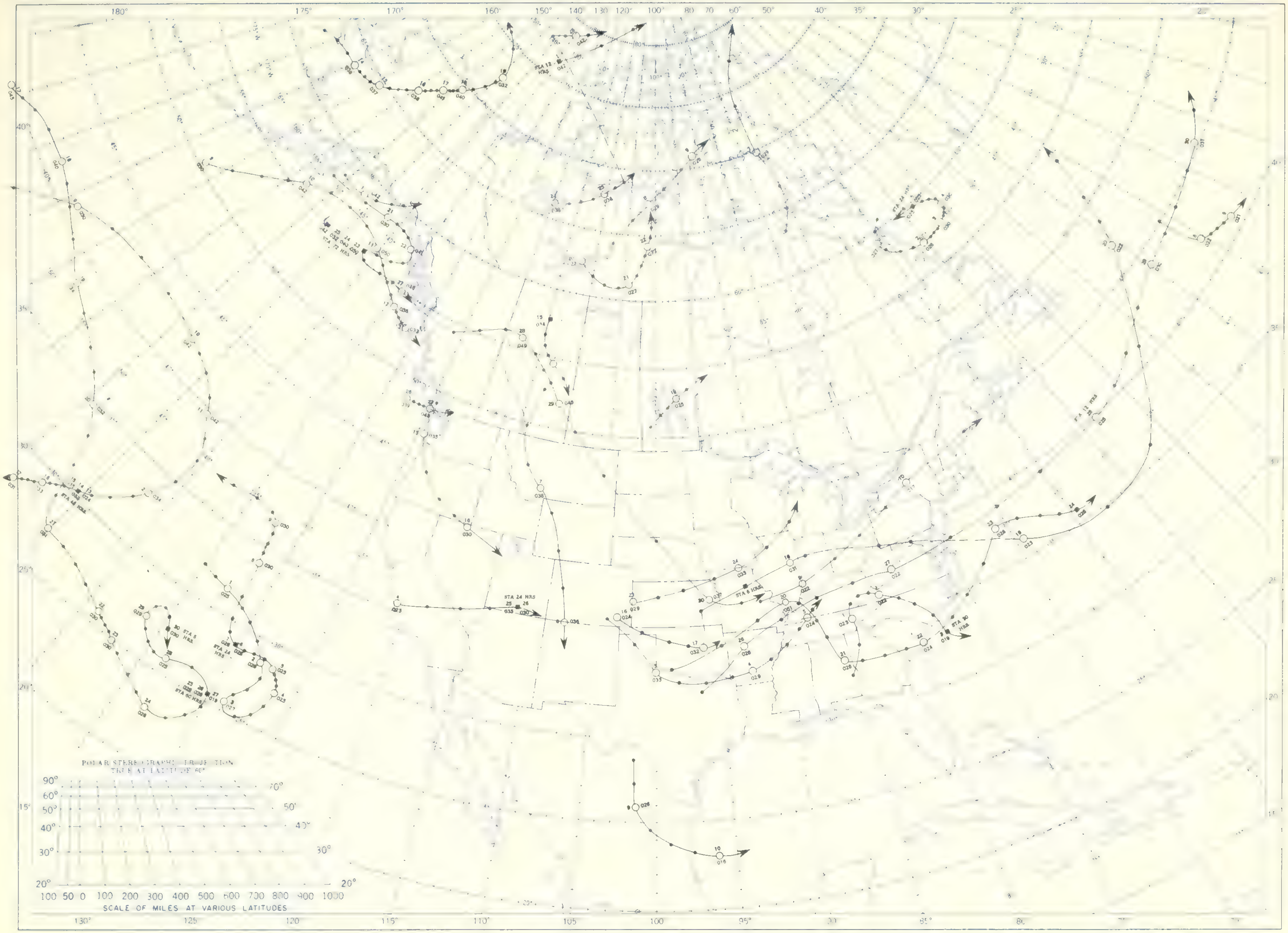


Inset discontinued as of January 1955
To be resumed when normals are recomputed

Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$). Basic data for isolines

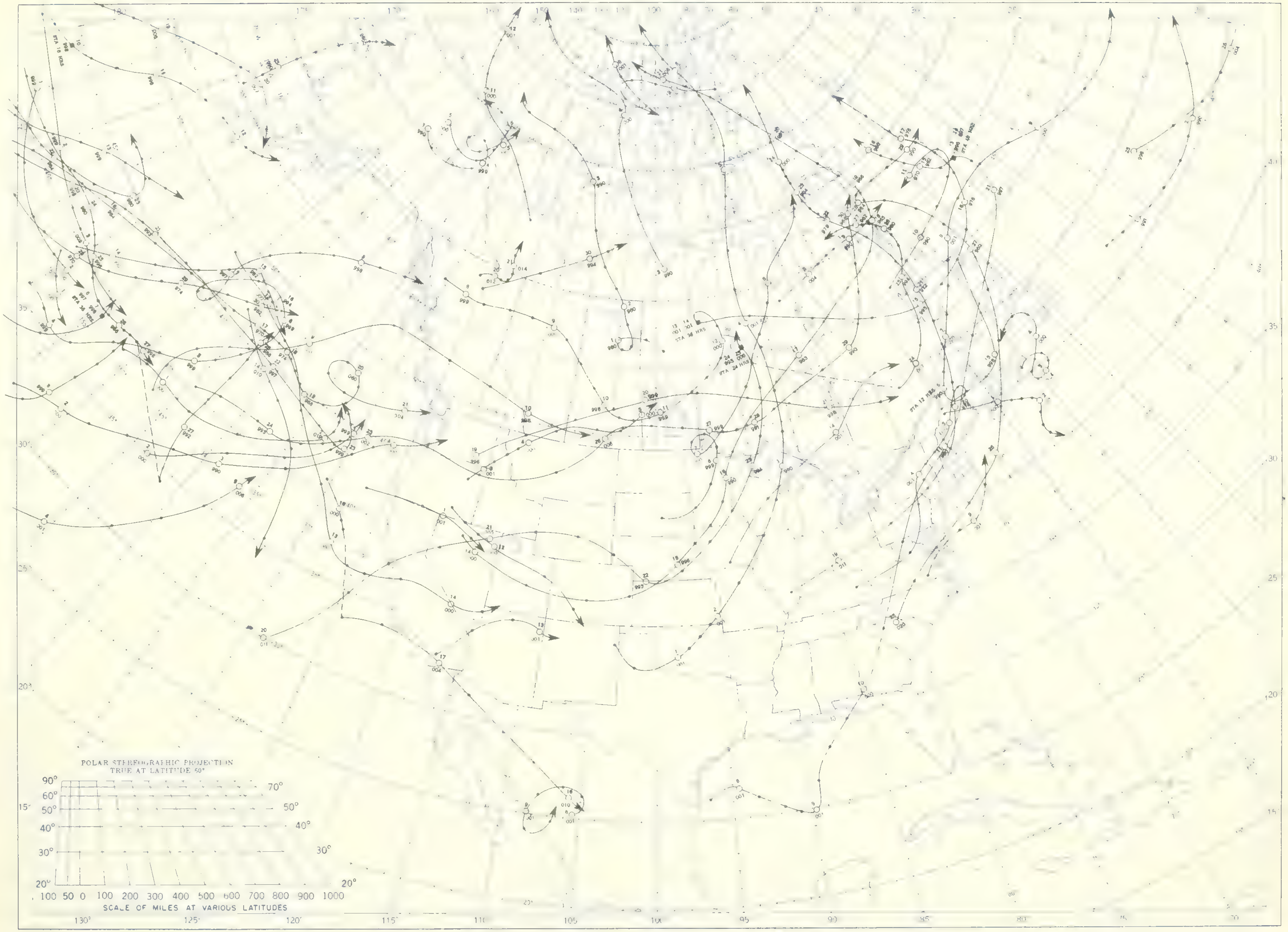
Chart IX. Tracks of Centers of Anticyclones at Sea Level, November 1955

Chart IX. Tracks of Centers of Anticyclones at Sea Level, November 1955.



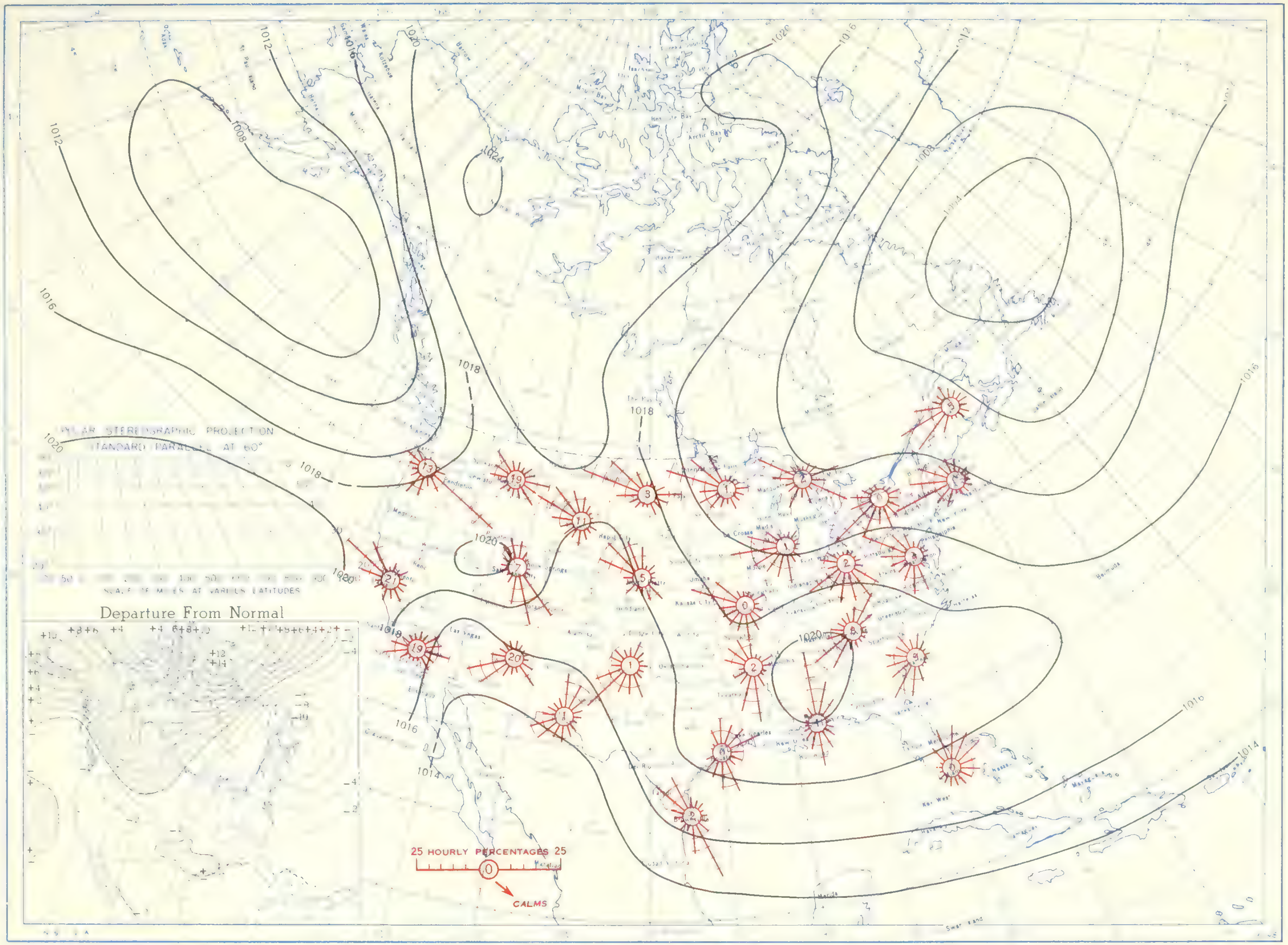
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, November 1955.



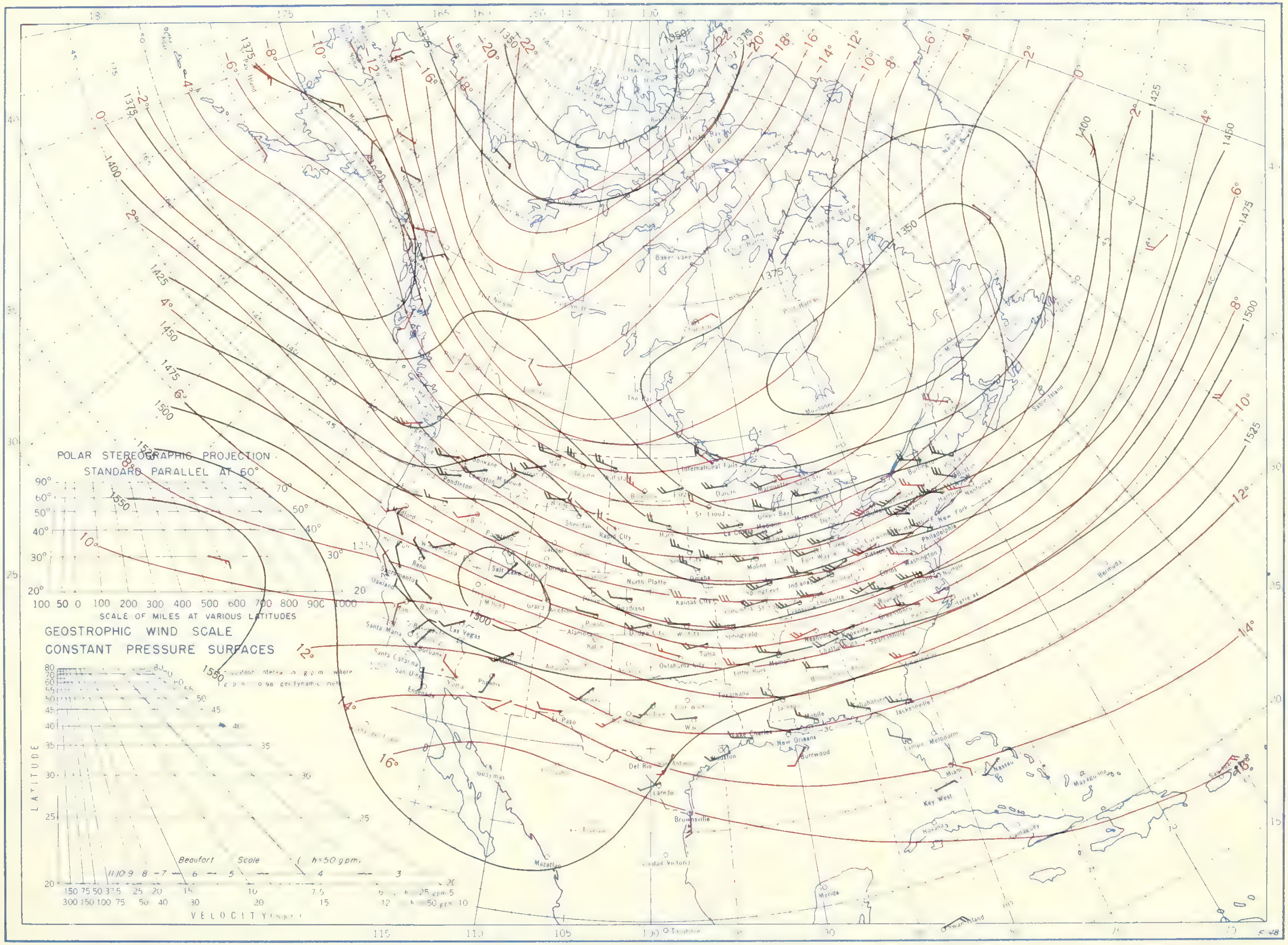
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Average Pressure (mb.) from Normal, November 1955.



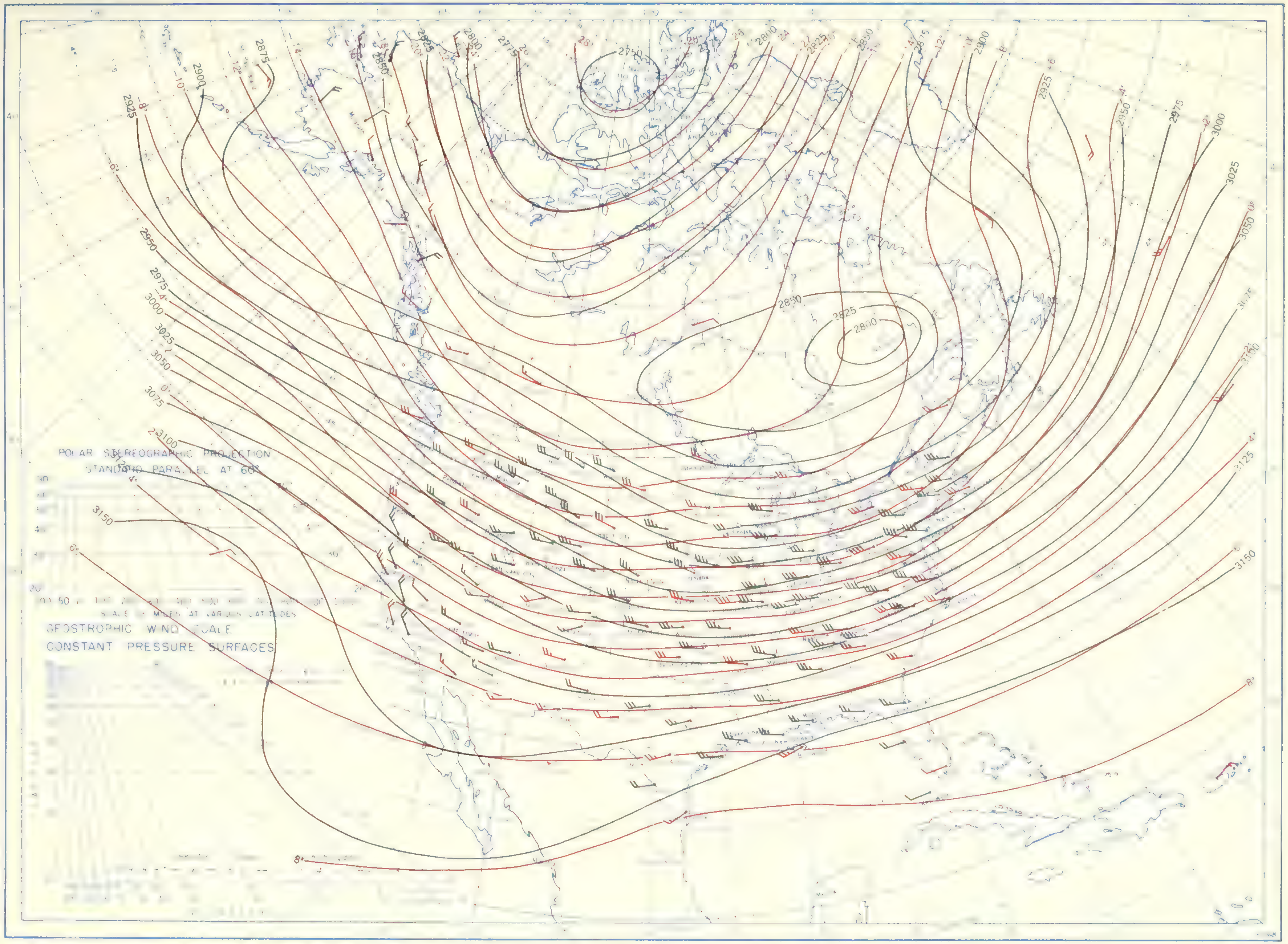
Average sea level pressures are obtained from the averages of the 7:30 a. m. and 7:30 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), November 1955.



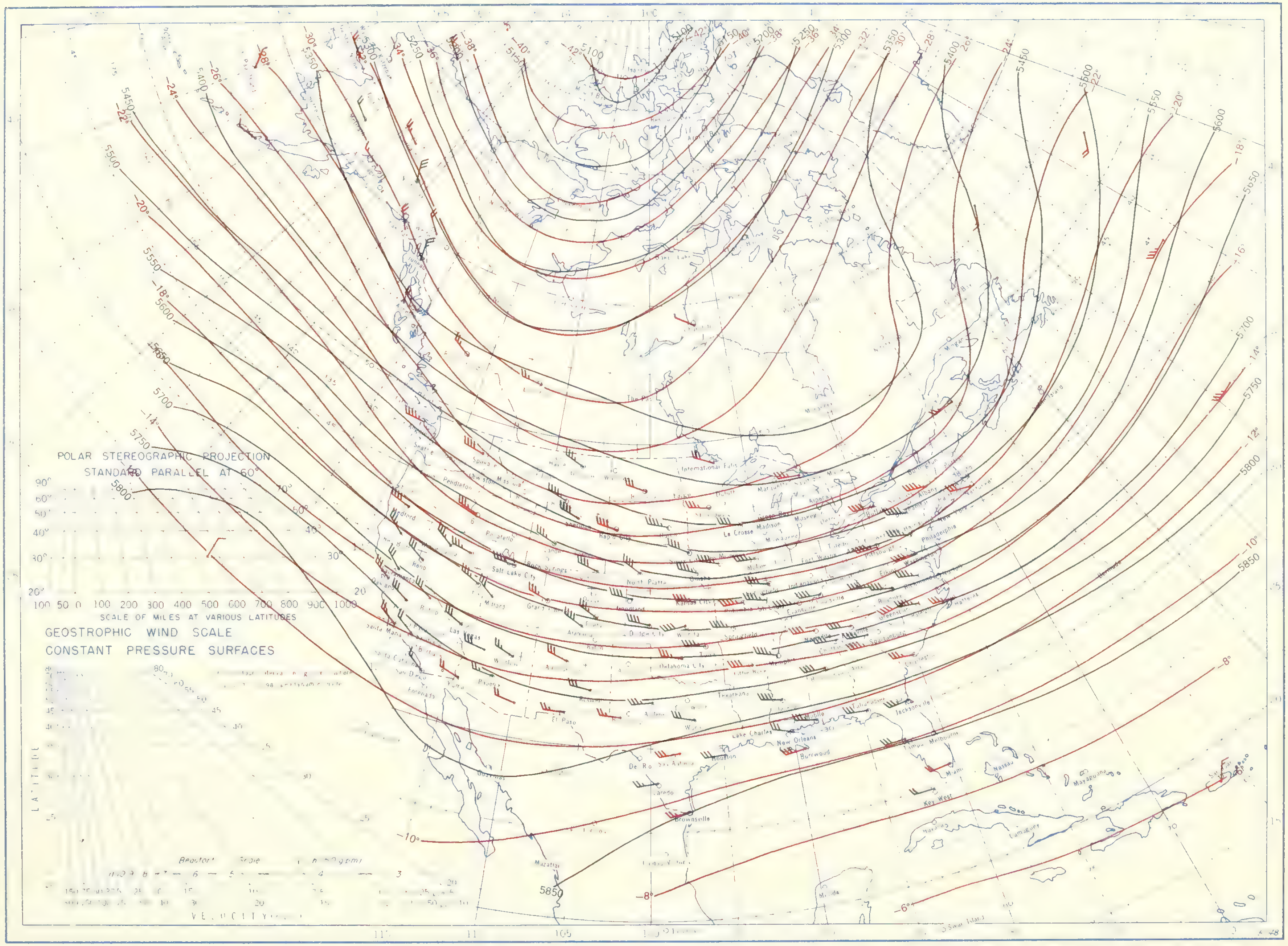
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), November 1955.



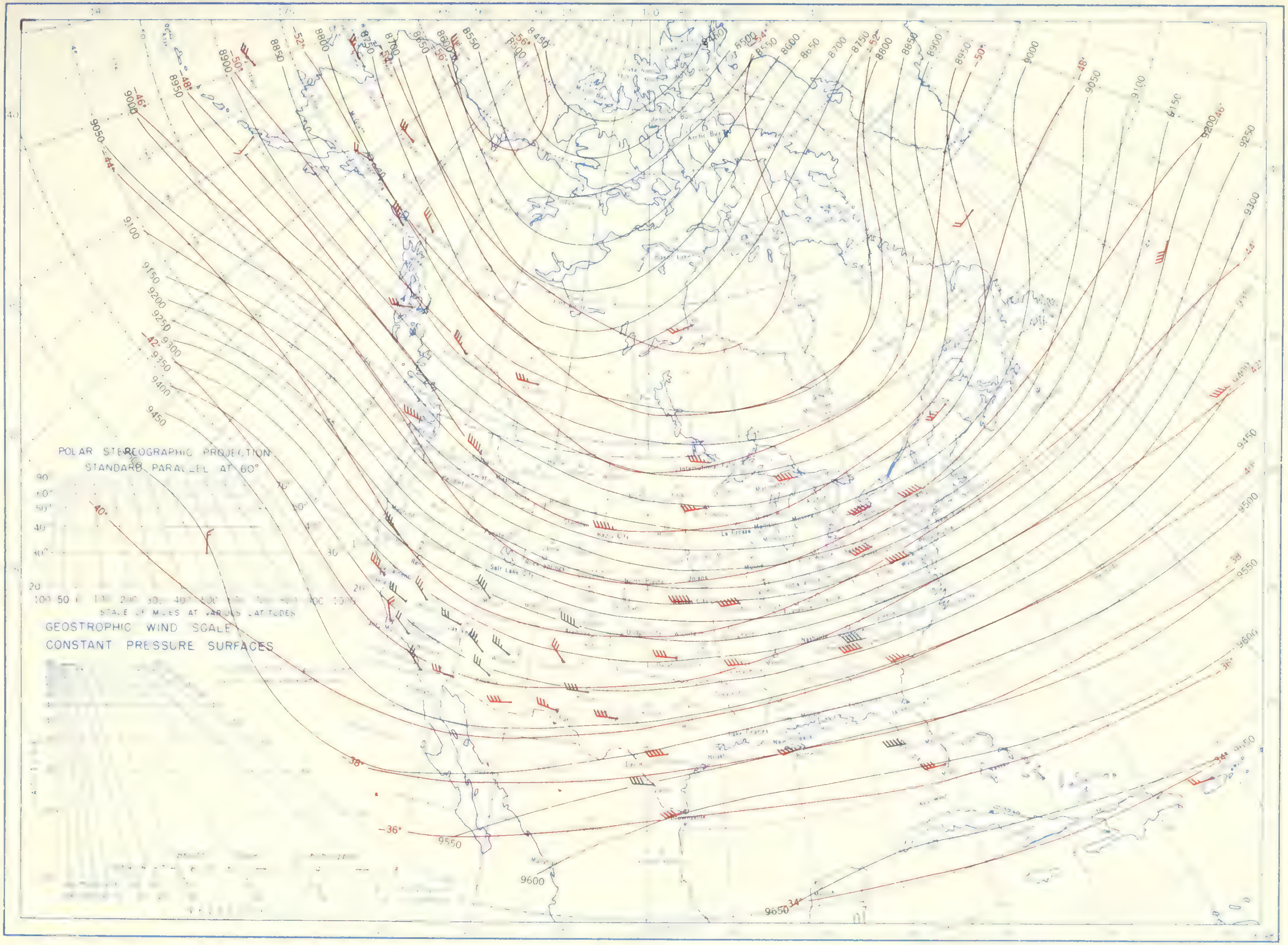
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), November 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;

Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), November 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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WEATHER BUREAU
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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DECEMBER 1955
Volume 6 No. 12

ASHEVILLE: 1956

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CHARTS I-XV

NOTE.--This publication contains all of the climatic data formerly printed in the MONTHLY WEATHER REVIEW.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

olume 6 No. 12

DECEMBER 1955

GENERAL SUMMARY OF WEATHER CONDITIONS

December was a month of contrasts and extremes. was abnormally warm, wet, and stormy in most the Far West, cold and dry in the East. In ddle and northern California and the Northwest veral Pacific storms brought destructive winds d record precipitation. Heavy rains and the lting of an abnormally heavy snow cover resulted destructive floods in California and Oregon, d locally minor to severe flooding in other ctions of the Northwest. Snowfall, also un- ually heavy, left above normal amounts near the nadian Border where below normal temperatures rsisted, but farther south much of the total ll melted. In New Mexico, Arizona, and southern lifornia precipitation was extremely scanty. East of the Rockies the cold weather of November rsisted through most of December. In regions ar the Canadian Border the month was among the n coldest Decembers. At the close ice on the ssouri River at Williston, N. Dak., was 30 ches thick, and in Minnesota frost penetration s 12 to 16 inches under the snow cover and as ch as 42 inches at Hallock where the ground was re. Ice closed the upper Mississippi River to vigation on the 1st, and no shipping passed rough the Soo Locks after the 16th. In southern eas temperatures, while not extremely low, fell freezing or below on far more than the usual mber of days (Montgomery, Ala., had freezing below on 13 days which may be compared to an erage of 6). A sharp break in the low tempera- re regime occurred early in the last decade and xima rose to record levels around Christmas. e month was a record-breaker for dryness in the st and Midwest, and was also very dry in the wer Great Plains. In the latter area December s the third consecutive dry month, and small ain and pasture prospects declined and water uling for livestock became more widespread as water supplies dwindled.

TEMPERATURE.--Temperatures for the month averaged well above normal west of a line joining New Orleans, La., and Portland, Oreg., and below normal elsewhere. Average departures from normal for the month ranged from 7° above in the lower Rocky Mountain region to 10° and 8° below in the northern Great Plains and Northeast, respectively. Extreme readings for the month ranged from -48° at West Yellowstone, Wyo., on the 15th to 93° in Texas at Coleman and La Pryor on the 24th and Hondo, La Prayor, and Uvalde on the 25th. Temperatures of -40° or lower were recorded in Wyoming, Colorado, Minnesota, Wisconsin, and New York. The month was among the 10 coldest Decembers on record in the Northeast and the coldest in parts of the northern Great Plains and upper Mississippi Valley since 1927.

Lowest temperatures occurred at most stations in the lower Rocky Mountain region during the first week, in the extreme Northeast at the end of the third week, along the middle and south Pacific Coast during the closing days of the month, and in the remainder of the Country about midmonth. In the Far West the latter half of the month was considerably warmer than the first half. East of the Rockies below-normal temperatures persisted through the month in extreme northern areas except during brief warm spells about the middle of the first week and around Christmas, and through the first two decades in the South after which temperatures were generally mild. Highest temperatures over most of the country were recorded during the fourth week. They were unusually high east of the Rockies on the 24th and 25th, many stations in the South and East reporting their highest on record. Some of the stations having their warmest Christmas on record are listed below:

San Antonio, Tex., 90°
Austin, Tex., 90°
Denver, Colo., 66°
Chattanooga, Tenn., 75°
Knoxville, Tenn., 73°
Greensboro, N. C., 74°
Wilmington, N. C., 77°
Florence, S. C., 81°
Columbia, S. C., 79°
Greenville, S. C., 78°
Albuquerque, N. Mex., 63°
Richmond, Va., 74°
Norfolk, Va., 73°
Lynchburg, Va., 71°

During this warm spell at Christmas maximum mperatures ranged in the 80's in the lower Great ains and in the 70's in the Southeast.

PRECIPITATION.--Statewide precipitation averages r California (6.32 inches), Oregon (8.16 inches), d Wyoming (1.47 inches) were the highest on cord for December. In addition it was the third ttest December in Washington and Idaho, the urth wettest in Nevada, and the wettest in Mon- na since 1933. Monthly totals ranged up to .08 inches at Strawberry Valley, Calif., 31.28 Golf Beach, Oreg., and 29.98 inches at Naselle, sh. In central California where disastrous oods occurred 31.60 inches of rain fell in a -day period starting about the 15th. Stations th long records reporting their highest totals r December were: Sheridan, Wyoming, 2.03 inches; Roseburg, Oreg., 15.74 (greatest for any month); Medford, Oreg., 8.77; Eugene, Oreg., 19.49 (also a 24-hour record of 4.82 in. on 20th-21st); San Francisco, Calif., 11.47; Sacramento, Calif., 12.67 inches (also 3.27 inches on 18th-19th for December 24-hour record, greatest monthly total since 1867, and, one inch or more on 5 days, also a record).

In contrast to the record precipitation in the Far West, the reverse was true in large areas east of the Rockies. Statewide averages were the lowest on record for December in New Jersey, Maryland, Delaware, Virginia, North Carolina, Pennsylvania, Ohio, Indiana, and Illinois. The month was among the driest on record in several other states. Some of the individual stations reporting the driest December on record are listed below:

Columbia, S.C., 0.32 inch
Providence, R.I., 0.58
Raleigh, N.C., 0.59
Greensboro, N.C., 0.33
Reading, Pa., 0.17
Pittsburgh, Pa., 0.40
Philadelphia, Pa., 0.25
Harrisburg, Pa., 0.23
Atlantic City, N.J., 0.90
Trenton, N.J., 0.19 inch
New York City, 0.21
Baltimore, Md., 0.20
St. Louis, Mo., 0.08
Columbia, Mo., 0.19
Concordia, Kans., 0.43
Columbus, Ohio, 0.48
Dayton, Ohio, 0.36
Cincinnati, Ohio, 0.56
Louisville, Ky., 1.11 inches
Springfield, Ill., 0.15
Hartford, Conn., 0.78
Wilmington, Del., 0.19
Augusta, Ga., 0.32
Columbus, Ga., 0.43
Midland, Tex., T
Milford, Utah, 0.06

The record at Baltimore, Md., dates back to 1817. Akron, Ohio, had only 0.31 inches for a new record, although precipitation was observed on 28 days. The 0.19 inch at Trenton, N. J., was the second lowest total for any month during the entire period of record.

SNOWFALL.--Snowfall, quite frequent in nearly all northern areas, was generally below normal in the East but extremely heavy in most of the West. Statewide averages were the highest on record for Oregon and Wyoming, the third highest for Washington, the sixth highest for Idaho, and twice the average amount for Montana. Moose, Wyo., measured 103 inches of snow for the month, 16 inches fell at Lander, Wyo., during a storm on the 2d and 3d, and 16 inches fell at Bozeman, Mont., in 24 hours ending at 6 p.m. on the 23d. This storm also extended into the Dakotas, dumping 11 inches on Huron, S. Dak., the sixth heaviest snowstorm there on record. Although snowfall was generally light in the East some heavy falls occurred near the Great Lakes, the most outstanding being at Syracuse, N. Y., which measured 38 inches for its third greatest December fall on recor

DESTRUCTIVE STORMS.--The month's storm dama
virtually all took place in the Far west, mo
of it from the 18th to 27th when winds up
hurricane force or above accompanying a seri
of Pacific storms swept over large areas of Cal
fornia and the Northwest. In California wi
damage during this period was estimated
$2,750,000. In Montana losses from winds on
22d and 23d were estimated at $225,000 to tim
and $40,000 to other property. During the pass
of this storm Helena, Mont., recorded its low
barometer reading for December, 28.99 inc
(m.s.l.), and Boise, Idaho, its lowest of reco
28.97 inches (m.s.l.). The overall widespr
damage in Oregon, Washington, and Idaho has
yet been determined. Record-breaking precipi
tion in northern and central California and s
adjacent areas produced unheard of flood dam
in many localities. (See the article "Gene
Summary of River and Flood Conditions" in t
publication for details; also the California
the Oregon Climatological Data.)

CONDENSED CLIMATOLOGICAL SUMMARY

ole 1

DECEMBER 1955

Section	Temperature								Precipitation					
	Average	Departure from normal	Monthly extremes						Average	Departure from normal	Monthly extremes			
			Station	Highest	Date	Station	Lowest	Date			Station	Greatest	Station	Least
	°F.	°F.		°F.			°F		In	In.		In.		In.
ibama	46.7	-0.9	3 Stations	82	3+	2 Stations	10	16+	2.03	-2.96	Mobile WB AP	8.24	Brundidge	0.09
zona	46.0	3.1	do	86	23+	Fort Valley	-10	5+	.52	-.79	Pinal Ranch	3.56	9 Stations	.00
ansas	41.1	-2.0	2 Stations	84	24+	Batesville Livestock	3	16	1.18	-3.11	Crossett 7S	4.35	2 Stations	.00
ifornia	47.5	1.9	Borrego Springs 3NNE	89	20	White Mountain	-16	28	10.30	6.32	Strawberry Valley	54.08	6 Stations	.00
orado	30.0	4.0	Eversoll Ranch	85	24	Taylor Park	-44	5	.68	-.26	Wolf Creek Pass 4W	7.03	Amy	.00
necticut	23.9	-6.2	3 Stations	59	25	2 Stations	-13	22+	.79	-3.03	Falls Village	1.40	Bridgeport WB AP	.33
aware	31.4	-5.3	2 Stations	70	4	Newark College Farm	6	22	.66	-2.72	Selbyville	1.45	Wilmington City Hall	.09
rida	60.4	.4	Arcadia	88	6	Jasper 9ESE	19	17	1.40	-1.38	West Palm Beach WB AP	7.79	Cedar Key	.00
rgia	47.2	-1.1	2 Stations	83	4	Blairsville Exp. Sta.	11	1+	.93	-3.24	Flat Top	4.06	Folkston 9SW	.22
iho	28.3	2.0	Grand View	68	22	Gray 6NNW	-32	15	3.85	1.89	Deadwood Dam	11.82	Strevell	.95
inois	28.8	-2.4	E St. Louis Parks C	70	24	4 Stations	-9	19	.47	1.68	Aurora College	1.44	Edwardsville	.03
liana	28.8	-2.9	Edwardsport Pwr Pl	67	4	Greensburg 3SW	-6	16	.57	-2.15	La Porte	2.59	Winchester	E.22
a	20.3	-4.1	Keokuk	64	21	Sibley	-23	18	.49	-.60	Cedar Rapids #	1.55	Atlantic 1NE	.02
sas	31.5	-1.4	Ashland	90	24	Burr Oak	-8	15	.23	-.62	Haddam	.80	4 Stations	.00
itucky	35.1	-2.6	2 Stations	73	24	Shelbyville 2W	-2	16	1.51	-2.29	Middlesboro	3.44	Grant Dam 38	.41
isiana	52.8	-.1	4 Stations	84	24+	3 Stations	11	16	3.44	-2.03	Woodland	9.78	Converse	.90
ne	15.6	-6.6	West Buxton 2NNW	45	25	Fort Kent	-26	29	1.09	-2.24	East Sangerville 5SE	1.55	Fort Kent	.07
yland	31.4	-3.9	Ocean City	73	25	Oakland 1SE	-6	17	.41	-2.72	Snow Hill	1.52	Frederick 3E	T
sachusetts	24.1	-6.0	7 Stations	50	3+	2 Stations	-17	21+	.97	-2.62	Provincetown 3N	E1.73	Hubbardston	.50
higan	22.3	-2.4	2 Stations	53	24	Kenton U S Forest	-20	18	1.56	-.37	Houghton CAA AP	6.08	Coldwater State Sch.	.21
inesota	7.8	-7.5	Winona	45	24	Big Falls Ranger Sta.	-46	19	.98	.21	Duluth	1.95	Red Lake Falls	.28
sissippi	48.0	-.3	Collins	85	25	Houston 2NE	10	16	2.98	-2.29	Pascagoula High Sch.	7.34	Bluff Lake	.96
souri	32.6	-1.3	Waynesville 2W	79	24	2 Stations	-2	18+	.32	-1.86	Caruthersville	2.05	Van Buren 1S	.00
itana	17.4	-5.6	Wyola	63	22	West Yellowstone	18	15	1.45	.70	Haugan	7.95	Shelby	.04
raska	22.7	-4.4	2 Stations	68	22	Bridgeport	-19	5	.57	-.11	Osmond	1.58	Lamar	T
ada	35.8	3.1	do	78	23+	Wilkins	-20	5	2.31	1.37	Glenbrook	12.77	3 Stations	.00
Hampshire	16.9	-6.4	Windham	50	25	Fabyan	-35	22	1.10	-1.99	First Conn Lake	2.87	South Danbury	.47
Jersey	28.6	-5.2	Belle Plain	65	4	Layton 3NW	-13	21	.40	-3.17	Cape May 3W	1.08	Rahway	.06
Mexico	38.9	3.2	Hagerman	84	24	Eagle Nest	-27	5	.30	-.42	Sandia Crest	2.62	47 Stations	.00
York	20.8	-5.3	Dansville	67	5	Stillwater Reservoir	-40	21	1.50	-1.43	DeRuyter 4N	6.22	New York Laurel Hill	.17
th Carolina	38.9	-4.0	3 Stations	80	25+	Banner Elk	1	12	.92	-2.77	Hyatt Creek	4.82	Greensboro Pump Sta.	.20
th Dakota	5.5	-8.5	Amidon	52	27	Belcourt Indian Res.	-39	19	.35	-.13	Wahpeton State Sch.	.92	Grenora	T
o	29.3	-2.4	Chesapeake Huntg. CAA AP	70	24	Bucyrus Sewage Plant	-7	16	.51	-2.16	Chardon	1.85	Wooster 2SE	.07
ahoma	39.8	-.8	3 Stations	91	24	Beaver	2	9	.23	-1.50	Kiamichi Tower	1.76	Numerous Stations	.00
gon	34.4	.1	Adrian	70	22	Halfway	-17	14	8.16	3.90	Gold Beach RS	31.28	Mc Dermitt 26N	1.45
nsylvania	26.9	-4.3	2 Stations	68	5+	Pleasant Mount 1W	-14	21	.53	-2.55	Edinboro	2.87	Arendtsville	.04
de Island	25.8	-7.2	Block Island WB AP	48	4	Greenville	-6	21	.75	-3.08	2 Stations	.83	Providence WB AP	.58
ith Carolina	43.6	-3.1	Yemassee 4W	83	5	Caesars Head	7	16	.83	-2.72	Summerville 2WNW	3.67	Whitmire 2NE	.23
ith Dakota	13.8	-8.2	Rapid City	67	23+	Andover 7N	-33	19	.85	.34	Watertown CAA AP	3.36	Ralph	.07
inessee	39.0	-1.7	Moscow	77	24	Centerville Substa	5	16	2.51	-2.03	Belleville	6.82	McEwen 5S	1.01
as	49.4	1.4	4 Stations	93	24+	Plainview	4	15	.71	-1.33	Anahuac 6E	6.71	Numerous Stations	.00
ih	33.2	6.1	St George PH	75	23	Scofield Dam	-24	5	1.39	.29	Alta	15.96	Wah Wah Ranch	.00
mont	15.0	-7.2	Readsboro 1SSE	53	25	Lemington	-34	22	1.09	-1.68	Mount Mansfield	2.55	Wilder	.43
ginia	33.6	-4.2	Farmville	80	25	Big Meadows	-3	16	.95	-2.13	Rose Hill	3.60	The Plains 2SE	.10
hington	30.0	-3.6	3 Stations	64	11+	Winthrop 1WSW	-22	14	7.19	2.21	Naselle	29.98	Ruff 3SW	1.11
t Virginia	30.3	-4.2	Williamson	75	25	Birch River 6SSW	-10	12	1.21	-2.03	McRoss	3.28	New Cumberland Dam 9	.14
consin	15.4	-4.7	Whitewater	57	24	Danbury 1SE	-44	19	1.05	-.20	Port Wing	2.77	2 Stations	.16
ming	24.0	1.7	2 Stations	69	22+	Bondurant	-43	15	1.47	.70	Snake River	10.03	Deaver	.04
rto Rico	74.3	-.4	San German	98	6	Garzas Dam	48	25	4.21	-.14	Rio Blanca 1800 Ft.	12.87	Mona Island	.39

And also on a later date or dates.

Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of new snowfall.

te: Dates in Table 1 apply to the period 24 hours prior to time of observaon. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

Table 2

DECEMBER 1

State and station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile						
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min 32° F or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max. depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M p. h.		M. p. h.			0-3	4-7	8-10	0-10
ALABAMA																															
Birmingham	610	996.8	1022.9	55	36	45.3	0.4	74	3+	17	16	0	13	34	66	1.64	-3.61	1.02	7	0	T	0	8.1	[illegible]	35	SE	2	5	12	14	6.5
Mobile	211	1013.4	1021.7	63	44	53.4	-.1	77	26	23	16	0	8	44	73	8.24	2.83	5.28	9	2	0.0	0	10.0	N	-	---	--	7	8	16	6.3
Montgomery	198	1014.9	1022.6	59	38	48.4	-1.0	80	3	21	16+	0	13	38	72	1.36	-3.18	.60	6	1	.0	0	6.9	NW	24	SE	23	8	7	16	6.3
ARIZONA																															
Flagstaff	6993	------	------	47	21	33.6	5.4	60	21	-1	4	0	29	--	--	.88	-.98	.82	2	0	4.2	4	----	-	--	--	--	12	8	11	5.0
Phoenix	1114	978.0	1017.7	70	42	55.8	3.7	81	24	34	4	0	0	36	51	.18	-.79	.18	1	0	.0	0	3.5	E	*33	NW	2	16	4	11	4.5
Prescott	5014	848.3	1019.3	56	29	42.5	4.7	67	20+	18	4+	0	23	--	--	.86	-.51	.85	3	0	.2	T	7.1	SW	52	W	2	10	10	11	5.1
Tucson	2558	927.9	1016.9	71	40	55.5	3.5	79	19	33	5	0	0	29	43	.33	-.61	.33	1	0	.0	0	6.5	SE	32	SW	2	13	7	11	4.6
Winslow	4880	853.0	1018.6	55	27	41.4	6.9	68	23+	12	4	0	21	45	52	.38	-.15	.38	1	0	T	T	8.0	SE	*37	WSW	31	15	8	8	4.5
Yuma	199	1012.2	1017.5	73	44	58.4	1.3	82	23	35	31	0	0	33	42	T	-.55	T	0	0	.0	0	5.4	NNE	38	W	2	14	12	5	4.2
ARKANSAS																															
Fort Smith	458	1004.4	1021.7	51	29	40.0	-2.5	80	24	10	16	0	21	29	68	.66	-2.48	.72	2	0	.6	1	7.1	ENE	31	N	14	12	7	12	5.5
Little Rock	257	1008.5	1022.1	51	34	42.5	-1.4	80	24	15	16	0	14	31	66	1.93	-2.15	.95	4	1	T	T	8.5	NNE	25	SW	24	9	8	14	5.9
Texarkana	361	-----	- --	56	36	45.7	-2.3	83	24	15	16	0	13	--	--	1.75	-3.09	1.82	3	0	T	0	----	---	--	-	--	--	--	--	---
CALIFORNIA																															
Bakersfield	489	1001.7	1019.9	60	45	52.5	3.8	74	20+	32	30	0	1	45	78	.50	-.53	.20	8	0	.0	0	3.9	ENE	*24	E	4	1	2	28	9.1
Bishop	4108	874.0	1016.6	55	24	39.1	.0	67	11	9	5	0	27	--	--	4.02	3.13	2.54	7	0	1.0	1	---	---	--	-	--	8	6	15	6.
Blue Canyon	5280	837.5	1016.9	41	31	35.6	-2.9	59	12	17	30	0	17	-	--	45.12	36.37	9.31	24	0	77.7	20	- --	---	--	--	--	3	4	24	8.4
Burbank	699	992.9	1019.2	63	46	54.1	-.6	79	12	35	30	0	0	44	74	1.31	-1.55	.52	8	0	.0	0	3.5	SE	*18	WNW	2	8	6	17	6.
Eureka CO	43	1012.5	1014.9	56	45	50.1	1.5	65	21	30	29	0	3	--	--	11.63	5.54	1.82	21	1	T	0	8.5	---	35	SW	21+	4	3	24	8.1
Fresno	331	1007.8	1019.7	56	44	50.1	3.8	71	21	31	29	0	1	45	84	6.73	5.10	1.76	16	0	.0	0	7.5	SE	20	NW	24	3	4	24	8.
Los Angeles CO	312	------	------	62	50	55.9	-1.4	78	12	40	30	0	0	45	73	1.11	-2.00	.39	8	0	.0	0	5.7	---	26	W	1	8	8	15	6.
Los Angeles	99	1015.6	1019.2	62	50	55.6	.0	78	11	40	30	0	0	47	78	.94	-1.67	.31	8	0	.0	0	5.8	W	%35	W	1	5	10	16	7.
Mt. Shasta CO	3544	890.3	1016.2	43	29	35.9	1.2	53	12	17	4	0	23	--	--	17.48	12.09	4.30	16	0	22.9	7	----	--	--	---	--	1	9	21	8.
Oakland	3	1018.0	1018.4	56	46	51.0	2.4	62	20+	33	29	0	0	46	82	11.29	7.87	2.21	22	1	.0	0	8.0	SE	*46	SSW	23	5	6	20	7.
Red Bluff	341	1004.4	1017.3	54	43	48.0	1.2	63	12	31	28	0	3	39	84	7.71	3.48	2.45	19	0	.1	T	12.7	SSE	51	SE	22	3	8	20	8.
Sacramento	17	1017.3	1018.1	56	44	49.5	3.7	63	1+	34	4	0	0	45	85	12.64	9.63	3.64	19	0	.0	0	11.4	SSE	59	SE	19	3	9	19	7.
Sandberg	4517	863.9	1018.6	48	38	42.9	.5	63	12+	27	4+	0	9	--	--	3.04	.19	1.04	9	0	11.2	10	---	---	--	--	--	7	5	19	7.
San Diego	19	1015.9	1019.0	64	50	57.1	.2	75	12	40	31	0	0	48	74	.33	-2.24	.20	7	0	.0	0	5.4	NE	28	SW	2	8	8	15	6.
San Francisco CO	52	------	------	57	49	53.1	1.2	63	10+	40	30	0	0	-	-	11.47	7.40	2.57	22	0	.0	0	9.2	- -	42	S	19+	5	10	16	7.
San Francisco	8	1017.3	1017.9	57	47	51.7	2.4	63	21	36	29	0	0	48	88	12.30	8.71	3.33	21	0	.0	0	9.5	S	53	S	19	4	7	20	7.
Santa Maria	238	1010.5	1019.3	61	44	52.7	.3	78	11	31	29	0	2	47	82	4.82	2.21	3.07	16	0	.0	0	7.1	WNW	*27	ESE	4	6	8	17	6.
COLORADO																															
Alamosa	7538	771.1	1024.0	44	5	24.8	5.4	58	23+	-15	5	0	31	--	-	.04	-.13	.03	2	0	.7	1	-- -	-	--	--	--	15	8	8	4.
Colorado Springs	6173	808.3	1018.0	50	21	35.2	3.7	77	23	3	5	0	27	14	18	.08	-.23	.03	5	0	1.2	T	10.0	NNE	*35	WNW	16	11	9	11	5.
Denver	5292	835.4	1016.3	49	22	35.4	3.7	73	23	2	4	0	26	16	52	.15	-.36	.15	2	0	2.9	2	10.6	S	35	W	16+	10	10	11	5.
Grand Junction	4849	861.5	1021.1	45	26	35.8	7.3	64	24	13	5+	0	25	23	61	.18	-.50	.10	2	0	1.5	2	7.6	ESE	47	NW	31	4	11	16	6.
Pueblo	4639	855.7	1017.8	52	20	36.2	5.1	76	24	3	5	0	28	17	50	.09	-.34	.07	3	0	1.7	1	7.8	W	41	W	23	9	13	9	5.
CONNECTICUT																															
Bridgeport	7	1019.7	------	35	21	27.9	-4.4	50	25	0	21	0	27	--	-	.33	-2.75	.17	5	0	4.8	4	----	---	--	---	--	12	9	10	5.
Hartford	169	1013.8	1019.9	32	17	24.3	-5.3	46	25	-4	21	0	28	14	64	.78	-2.51	.50	6	0	3.2	1	11.4	NW	49	NW	10	11	7	13	5.
New Haven	6	1019.0	1019.6	34	20	26.8	-5.1	48	25	1	21	0	28	-	--	.98	-2.96	.32	7	0	7.8	4	6.9	---	22	E	4	10	7	14	5.
DELAWARE																															
Wilmington	73	1018.0	1021.3	38	22	29.9	-5.2	57	25	9	22	0	29	19	66	.19	-2.80	.16	3	0	.9	1	7.9	NW	--	---	--	10	10	11	5.
DIST. OF COLUMBIA																															
Washington CO	72	- -- -	------	41	27	34.1	-4.1	64	25	15	16	0	25	--	--	.24	-2.51	.11	4	0	.3	T	6.7	---	29	NW	19	--	--	--	--
Wash. Nat'l. AP	14	1017.9	1022.5	40	27	33.6	-4.4	64	25	15	16	0	27	20	61	.22	-2.39	.08	4	0	.5	T	9.9	NW	38	NW	19	12	7	12	5.
FLORIDA																															
Apalachicola	13	1019.9	1021.1	62	47	54.6	-1.7	72	25+	31	10+	0	2	--	--	.30	-2.99	.14	6	1	.0	0	8.2	---	30	N	31	6	9	16	6.
Daytona Beach	31	1018.9	1020.5	69	50	59.4	-1.1	81	4	33	10	0	0	52	79	1.22	-1.23	1.07	3	0	.0	0	9.9	NNW	*28	NNW	12+	7	8	16	6.
Fort Myers	15	1018.9	-- --	75	53	64.0	-1.6	84	4+	38	17	0	0	--	—	.85	-.44	.56	6	0	.0	0	8.1	---	*25	ESE	29	15	3	13	5.
Jacksonville CO	18	--- -	- ---	64	47	55.2	-2.5	80	3	30	10	0	2	--	-	.18	-2.21	.06	5	0	.0	0	- -	---	-	--	--	--	--	--	--
Jacksonville	24	1020.4	1021.6	64	45	54.5	-1.9	80	4	29	10+	0	3	46	78	.21	-2.16	.10	4	0	.0	0	9.7	NNE	30	N	27+	10	5	16	6.
Key West CO	5	1017.1	1017.9	76	66	71.3	-.5	85	4	58	10	0	0	--	--	1.09	-.69	.44	6	1	.0	0	8.0	---	22	NE	29	10	11	10	5.
Lakeland CO	214	------	-- --	71	53	61.9	-.6	82	4	36	10	0	0	--		1.47	-.53	.46	9	0	.0	0	4.6	--	--	---	--	10	7	14	5.
Miami CO	8	------	------	75	62	68.8	-.7	82	7	45	10	0	0	--	-	3.13	1.40	.94	11	0	.0	0	11.4	---	38	E	28+	9	13	9	5.
Miami	8	1017.3	1018.4	78	61	69.4	.2	85	6	46	10	0	0	60	77	1.84	.19	.71	7	0	.0	0	9.9	N	*23	E	28+	8	9	14	6.
Miami Beach	9	--	------	76	65	70.6	-.3	81	6+	50	10	0	0	--	--	2.90	1.07	1.26	14	0	.0	0	----	---	--	--	--	6	6	19	--
Orlando	106	1016.1	1020.7	71	51	60.8	-1.9	81	3+	35	10	0	0	53	81	1.56	-.53	.71	6	1	.0	0	8.1	N	*27	ENE	28	10	7	14	6.
Pensacola CO	13	1019.0	------	62	47	54.5	-.6	72	24+	26	16	0	3	--	--	1.00	-3.17	.49	7	1	.0	0	10.3	--	23	SE	1	--	--	--	--
Tallahassee	64	1018.8	1021.5	63	43	52.9	-1.2	79	3	27	10+	0	5	43	74	2.60	-1.08	2.06	6	1	.0	0	6.3	NE	--	---	--	8	8	15	6.
Tampa	19	1018.9	1020.5	71	51	61.1	-1.6	83	4	35	10	0	0	53	79	.67	-1.29	.27	6	0	.0	0	9.5	N	*25	NW	9	9	9	13	5.
West Palm Beach	15	1017.4	1018.3	77	60	68.3	-.4	85	7	45	17	0	0	60	79	7.79	5.59	5.26	12	0	.0	0	11.5	NW	*32	ENE	28	9	9	13	5.
GEORGIA																															
Atlanta	977	980.1	1023.2	51	35	43.4	-1.8	71	24	18	16	0	13	31	66	1.08	-3.47	.47	8	0	.0	0	12.4	NW	29	NW	9+	10	7	14	6.
Athens	798	993.3	1022.7	52	33	42.2	-3.0	77	25	17	16+	0	15	30	65	1.18	-3.54	.56	5	0	.0	0	9.9	ENE	28	NW	15	13	7	11	5.
Augusta	426	1015.7	1022.7	57	34	45.0	-4.3	78	25	15	17	0	13	33	68	.32	-3.41	.15	6	0	.0	0	6.3	NE	27	W	9	13	4	14	5.
Columbus	382	1008.0	1022.6	58	37	47.1	-.5	74	3+	19	17	0	13	--	--	.43	-4.14	.27	4	0	T	0	--	--	--	---	--	11	3	17	6.
Macon	354	1008.4	1022.3	58	38	47.5	-2.2	75	4	19	17	0	11	33	63	.58	-3.66	.25	4	0	T	T	7.2	NE	26	W	9	9	4	18	6
Rome	637	999.2	------	52	31	41.3	-2.0	74	25	15	17	0	18	--	--	1.07	-4.15	.56	9	0	T	0	-- -	--	--	---	--	7	13	11	6.
Savannah	38	1019.6	1022.3	59	38	48.6	-3.8	82	4	22	17	0	10	39	74	.40	-2.24	.33	4	0	T	0	9.3	NE	29	NW	9	10	4	17	6
IDAHO																															
Boise	2842	919.4	1017.7	42	29	35.4	4.4	62	22	16	14	0	22	27	74	2.22	.93	1.16	18	0	4.3	2	13.4	SE	35	SE	5	6	0	25	7
Idaho Falls CO 46W	4933	846.6	1019.0	34	15	24.3	4.0	50	23	-14	15	0	29	—	—	2.06	1.31	.52	17	1	6.0	3	9.0	---	a43	SW	23	--	--	--	-
Idaho Falls CO 42NW	4790	-----	-- --	33	14	23.2	5.4	50	23	-18	15	0	28	--	--	1.82	1.21	.52	20	--	---	-	6.8	--	a41	SSE	22	--	--	--	-
Lewiston	1413	963.8	1016.9	38	26	31.8	-2.2	57	26	5	18	0	26	-	-	1.65	.35	.32	15	0	9.1	5	----	---	--	---	—	5	3	23	8
Pocatello	4444	861.8	1018.1	39	24	31.6	4.8	55	23	0	15	0	24	25	76	1.33	.19	.61	15	1	2.9	1	15.8	S	43	S	19	3	7	21	8
ILLINOIS																															
Cairo CO	314	1009.5	-- -	45	30	37.2	-2.5	68	24	14	16	0	21	-	--	.66	-2.67	.36	7	0	.9	1	8.8	---	26	SW	24	12	6	13	5
Chicago	610	998.3	1022.5	33	19	25.8	-2.2	55	3	2	19	0	29	17	69	.52	-1.43	.32	5	1	2.1	1	10.7	NW	33	W	[illegible]	4	11	16	7
Moline	589	1000.3	1023.6	33	16	24.2	-2.7	58	24	-5	19	0	30	16	72	.54	-1.03	.35	5	1	2.9	2	12.7	W	51	W	4	8	8	15	6
Peoria	654	999.3	1022.6	34	18	26.3	-2.3	58	3+	0	19	0	29	17	69	.36	-1.68	.19	5	0	2.3	1	12.3	---	33	W	4	11	6	14	5
Springfield	587	999.3	1023.4	38	20	28.6	-2.0	64	24	1	16	0	27	20	70	.15	-1.88	.10	2	0	1.7	1	12.2	S	36	SW	3	13	4	14	5
INDIANA																															
Evansville	383	1006.8	1023.2	43	24	33.5	-3.4	65	3+	7	16	0	25	26	77	.72	-2.46	.57	7	0	.5	T	9.2	NNW	26	SW	22+	7	8	16	6
Fort Wayne	801	989.5	1022.0	34	19	26.6	-2.2	56	4	4	16	0	29	20	75	.54	-1.72	.18	8	0	3.5	2	11.2	W	34	W	4	7	7	17	7
Indianapolis	793	991.9	1023.1	37	21	28.7	-2.4	59	3+	0	16	0	28	21	73	.70	-2.09	.55	7	0	3.4	2	10.6	SE	43	W	4	7	10	14	6
South Bend	768	992.6	1021.7	33	19	25.8	-2.0	57	3	-1	16	0	29	19	77	.70	-1.58	.22	14	0	8.4	4	11.3	SW	*33	SW	4	5	2	24	8

See footnotes at end of table.

Table 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb	°F	°F	°F	°F	°F		°F				°F	%	In	In.	In			In	In	M p. h.		M p. h.			0–3	4–7	8–10	0–10	%
IOWA																																
urlington	694	996.3	1023.2	35	16	25.3	-2.6	61	24	-1	19	0	31	15	68	0.23	-1.45	0.17	4	0	2.4	2	11.4	S	36	NW	14	10	4	17	6.0	70
es Moines	948	989.8	1022.7	31	12	21.5	-4.7	52	23	-9	18	0	31	15	76	.44	-.70	.23	4	0	4.4	3	12.6	NNW	48	W	4	6	5	20	7.2	51
ubuque	1065	995.9	1022.4	27	11	18.9	-4.5	50	24	8	19	0	31	13	74	.76	.59	.31	8	0	7.4	5		--	--	---	--	6	9	16	6.8	--
ioux City	1094	978.3	1022.1	27	10	18.2	-5.2	49	23	8	19	0	31	10	70	.69	.05	.59	6	0	4.4	2	13.8	SSE	49	NW	4	3	11	17	7.5	43
KANSAS																																
oncordia CO	1375	969.2	-----	36	19	27.3	-4.5	61	23	2	19	0	28	--	68	.43	.18	.19	7	0	7.5	4	7.2		27	N	3	10	6	15	6.0	67
odge City	2594	928.9	1019.6	46	19	32.6	.8	86	24	8	15	0	29	19	64	.01	-.49	.01	1	0	.2	T	14.4	SSW	45	NE	13	13	4	14	5.6	68
oodland	3645	887.9	1018.8	42	16	28.8	.2	77	24	1	5	0	31	19	72	.38	-.09	.35	3	0	5.0	4	11.4	WSW	*32	NW	7	9	10	12	5.8	-
opeka	879	985.1	1022.5	40	20	30.1	2.1	67	24	3	9	0	28	18	63	.33	-.83	.16	4	0	3.7	2	12.0	S	40	SW	3	8	6	17	6.3	49
ichita	1321	970.2	1020.6	45	22	33.1	2.4	83	24	7	9	0	27	20	64	.03	1.07	.03	2	0	.1	T	13.1	S	40	SW	16	9	5	17	6.2	66
KENTUCKY																																
exington	979	985.7	1022.7	42	25	33.6	-1.3	66	24	5	16	0	25	24	71	1.86	-1.82	.67	11	0	2.5	1	10.0	S				8	7	16	6.1	--
ouisville	474	1003.1	1022.9	44	27	35.2	-1.7	65	24	9	16	0	23	25	69	1.11	-2.19	.60	8	0	.7	1	9.8	SE	27	S	24+	8	9	14	6.1	58
LOUISIANA																																
aton Rouge	64	1018.0	1021.5	64	45	54.9	1.3	80	3+	23	16	0	6	45	72	3.31	1.94	1.79	6	1	T	T	9.3	N	-	--	--	7	9	15	6.4	--
ake Charles	12	1019.6	1020.8	64	47	55.7	1.7	79	3	25	16	0	4	47	77	3.89	-1.87	1.88	5	2	.0	0	7.8	N	*25	SW	3	10	4	17	6.1	--
ew Orleans CO	9	1019.0	-	64	49	56.1	-1.0	80	3	28	16	0	2	-	-	2.57	-2.01	1.23	6	0	.0	0	7.3	- -	20	NE	5	9	8	14	6.0	44
ew Orleans	3	1019.0	1021.2	64	47	55.5	-.6	80	3	29	16	0	2	48	77	2.81	-1.86	1.66	9	1	.0	0	9.1	ENE	*28	NNW	9	5	14	12	6.3	--
hreveport	252	1011.9	1021.4	59	40	49.4	.2	84	24	17	16	0	8	38	68	2.42	-2.41	1.53	2	1	T	T	10.2	SSE	-	---	--	11	6	14	5.6	60
MAINE																																
aribou	624	989.7	1014.3	18	4	11.1	-3.5	29	1+	-15	22	0	31	3	68	1.23	1.00	.54	8	0	15.4	11	11.6	W	*32	W	20	5	10	16	6.7	-
ortland	61	1013.4	1017.5	29	8	18.2	6.9	43	25	-14	21	0	31	8	65	.98	-2.81	.61	7	0	9.6	4	8.7	WNW	36	W	25	10	9	12	5.5	68
MARYLAND																																
altimore CO	14	----	------	41	27	33.9	-4.9	64	25	16	16+	0	26	-	--	.15	-2.80	.11	2	--	----	--	----	---	--	---	--	--	--	--	---	--
altimore	146	1017.3	1022.2	40	23	31.3	-4.4	64	25	11	22	0	28	21	68	.20	2.75	.13	2	0	.5	T	9.3	NW	45	NW	19	12	9	10	5.1	57
rederick	294	-	----	39	21	29.6	-5.4	65	25	7	22+	0	28	-		.15	2.77	.05	3	0	.5	1		--		--	-		--	--	---	
MASSACHUSETTS																																
lue Hill Obs.	629	993.1	1017.5	31	16	23.4	-5.7	45	3+	7	21	0	30	--	64	.92	-2.98	.56	7	0	3.4	1	15.8	WNW	37	WNW	25	15	5	11	4.8	60
oston	15	1013.1	1017.9	33	20	26.6	6.2	48	25	2	21	0	28	13	57	1.03	-2.34	.91	7	0	1.8	1	17.2	WNW	*43	WNW	25	12	7	12	5.2	73
antucket	43	1017.4	1017.9	35	22	28.6	-6.6	50	5	3	21	0	27	20	70	1.21	2.49	.41	7	0	5.2	4	12.6	WNW	32	NW	26	9	7	15	6.3	48
ittsfield	1153	971.5	-- -	26	11	18.7	-6.1	43	24+	-17	21	0	30	-		1.11	-1.94	.47	12	0	11.0	3	-- -	---	--	---	--	--	--	--	---	--
MICHIGAN																																
lpena CO	587	996.3	------	28	17	22.9	-2.8	42	24	0	20	0	31	-	-	1.95	.20	.57	18	0	23.6	12	11.7	-	34	E	3+	0	8	23	8.3	37
etroit	619	993.6	1021.6	33	22	27.3	-2.2	52	24	10	20	0	29	20	73	1.41	-.79	1.03	10	1	4.8	2	10.9	NW	38	W	4	3	9	19	7.7	34
etroit (Willow Run)	722	991.5	1021.2	33	21	26.8	-1.9	52	24	9	20	0	29	19	73	1.07	-.97	.85	6	2	3.0	2	11.9	SW	*33	WSW	4	5	5	21	7.7	--
ast Lansing CO	856	- ---	---	31	20	25.7	-1.4	50	24	8	15+	0	29	--	--	.78	1.34	.48	10	1	3.5	1	6.0	---	20	W	4	--	--	--	---	33
scanaba CO	594	996.6	-----	27	13	20.0	-2.4	38	24	2	18	0	31	-	--	1.93	.50	.56	13	0	16.7	13	11.2	-	40	N	8	5	6	20	7.4	44
rand Rapids	681	994.9	1021.2	31	20	25.5	-1.8	45	24	9	15	0	29	20	80	1.18	-.99	.86	12	1	9.4	4	11.1	NW	34	W	4	2	5	24	8.3	31
arquette CO	677	991.5	- --	26	14	20.3	-2.8	39	24	1	19	0	31	-	76	2.31	.27	.72	19	0	26.9	19	9.1	---	29	S	23	3	2	26	8.6	28
uskegon	627	997.3	1021.4	31	21	26.0	3.2	42	24	9	15	0	29	20	78	1.30	-.63	.37	18	2	23.2	11	----	---	--	---	--	3	1	27	8.6	--
ault Ste.Marie	721	996.3	1019.1	24	10	17.2	-2.7	36	24	-10	20	0	31	13	84	2.57	.27	.68	20	0	32.6	19	10.1	E	*28	NW	29	3	5	23	8.2	24
MINNESOTA																																
uluth	1409	978.0	1021.2	18	-1	8.4	-4.8	33	27+	-30	19	0	31	2	71	1.89	.69	1.04	12	1	24.1	27	12.4	NW	53	NE	3	6	7	18	6.9	46
ntern'l Falls	1179	976.0	1022.3	14	8	2.9	6.2	35	27+	41	19	0	31	-5	66	.99	.14	.28	12	0	11.3	17	11.1	SE	--	---	--	9	9	13	6.0	--
nneapolis	830	986.8	1022.8	21	4	12.2	-7.2	38	23	-21	19	0	31	7	78	1.26	.41	.46	13	1	14.6	11	11.3	SE	35	NE	3	7	6	18	6.9	35
ochester	1017	982.7	1022.4	23	3	12.8	-6.2	41	23	-19	19	0	31	8	78	1.23	.21	.53	14	0	17.4	13	9.9	SSE	--	---	--	8	4	19	6.8	--
. Cloud	1034	981.4	1022.1	18	-2	8.0	-7.5	35	27+	-30	19	0	31	3	76	1.35	.66	.55	13	0	14.1	11	7.4	WNW		--	-	7	7	17	6.6	--
MISSISSIPPI																																
ckson	305	1009.5	1021.8	59	38	48.5	.5	80	24	16	16	0	13	38	70	2.90	-2.70	1.46	5	2	.0	0	8.1	SSE	32	NW	8	10	6	15	5.9	46
ridian	294	1008.0	-----	59	37	48.0	.2	78	24	17	16	0	16	--	--	3.06	-2.48	1.85	6	1	.0	0		-		---	--	10	8	13	5.8	--
cksburg CO	234	1012.1	------	59	41	50.1	.4	79	25	21	16	0	8	--	-	2.53	2.85	1.47	4	1	T	T	9.1		26	SE	1+	12	5	14	5.5	59
MISSOURI																																
lumbia	778	992.6	1022.2	41	22	31.5	-1.6	69	3+	7	16+	0	27	20	65	.19	1.88	.17	2	0	2.4	2	11.0	S	37	W	3	10	6	15	5.7	57
nsas City	741	986.1	1022.4	41	23	31.8	-1.9	66	24	9	15	0	25	19	61	.30	-1.20	.16	2	0	3.8	3	10.0	ENE	38	SW	3	9	8	14	5.9	48
. Joseph	809	------	------	38	18	28.0	3.2	60	23	3	16	0	29	-	-	.27	1.12	.13	4	0	4.0	2	12.5	--	--			9	7	15	6.2	--
. Louis CO	465	1001.7	-----	43	26	34.3	-1.9	69	24	9	19	0	24	--	--	.08	2.35	.08	2	0	T	T	11.8	---	34	S	2	9	8	14	6.0	61
. Louis	552	1001.7	1022.9	42	24	33.1	-2.0	70	24	8	19	0	25	21	64	.03	2.06	.03	1	0	T	T	10.0	S	--	---	--	12	2	17	5.9	--
ringfield	1265	972.2	1021.4	44	24	33.8	1.9	74	24	8	16	0	27	23	69	.21	-1.96	.16	3	0	1.9	2	13.0	SSE	41	SW	3	9	8	14	6.0	60
MONTANA																																
llings	3568	889.3	1018.0	31	14	22.6	4.6	52	12+	-14	18	0	29	13	70	1.89	1.31	.71	7	0	28.8	13	13.1	SW	40	NW	11	4	8	19	7.1	48
asgow	2277	941.4	1020.1	18	2	8.1	-8.2	45	12+	-27	18	0	31	4	83	.46	-.07	.13	11	0	5.2	5	9.9	ESE	--	---	--	5	9	17	7.1	--
eat Falls	3664	884.9	1016.4	32	13	22.3	-4.2	52	22+	-18	18	0	28	14	68	.55	-.15	.20	10	0	7.4	8	13.7	SW	70	SW	12	7	6	18	6.8	46
vre	2488	925.2	1019.2	24	2	13.1	-7.3	52	12	27	18	0	30	6	77	.32	-.24	.10	9	0	5.4	6	7.3		36	NW	12+	8	5	18	6.7	47
lena	3893	871.0	1019.5	29	9	18.8	-3.9	55	22	-15	18	0	29	12	75	1.13	.49	.39	12	0	15.3	8	6.5	WNW	40	SW	22	5	6	20	7.5	39
lispell	2965	------	------	29	13	20.8	-3.9	47	22	15	15	0	29	-		2.36	.82	.55	17	0	19.0	16			-			5	2	24	7.9	--
les City	2629	922.1	1020.0	25	6	15.6	-5.1	46	12	20	18	0	31	9	--	.53	.02	.24	8	0	6.5	5	9.9	SE	*40	NW	12+	7	4	20	7.3	--
ssoula	3200	900.8	1019.6	29	12	20.6	-3.0	48	12	-8	15	0	29	16	82	2.74	1.71	.83	18	0	20.1	13	4.0	W	47	NW	26	3	6	22	8.1	23
NEBRASKA																																
and Island	1841	951.9	1021.2	30	12	21.0	-6.0	51	23	6	9	0	30	15	76	.54	-.01	.45	6	0	4.4	3	12.6	S	-	-	-	8	7	16	6.6	--
ncoln CO	1166	------	----	33	17	25.0	-4.1	55	23	0	19	0	29	--	-	.42	-.44	.24	5	0	3.3	3	10.0		43	SW	3	7	9	15	6.3	57
rfolk	1544	963.8	1022.4	26	8	17.0	6.7	45	23	9	18	0	31	12	75	.80	.02	.73	4	0	6.7	5		--	--	---	--	6	7	18	7.0	--
rth Omaha	1323	970.5	------	30	12	21.3	--	55	23	4	19	0	31	-	-	.25	- -	.14	5	0	.7	T	----	---	--	--	--	-	-	--	- -	--
rth Platte	2779	916.7	1020.3	32	10	21.2	6.0	58	23	-8	5	0	31	14	76	.68	.28	.59	5	0	6.5	5	8.2	SSE	34	N	3	5	10	16	7.0	40
aha	978	980.4	1022.4	33	14	23.4	4.0	55	23	1	19	0	31	14	67	.22	-.59	.14	5	0	.9	1	12.5	SSE	38	S	3+	8	6	17	6.6	57
ottsbluff	3950	877.8	1018.6	38	14	25.7	-1.3	65	23+	15	5	0	29	18	72	.88	.45	.62	6	0	12.6	10	9.8	WNW				5	7	19	7.0	--
lentine CO	2581	923.5	--- --	29	6	17.8	-8.1	53	23	16	9	0	29	-	-	.46	.00	.33	7	0	8.2	8	10.1	-	36	NW	14	6	8	17	7.0	60
NEVADA																																
ko	5075	844.6	1019.8	37	17	26.9	.0	53	23	5	8	0	28	22	81	2.80	1.75	.81	16	0	31.2	13	5.5	SW	*25	SSW	19	3	5	23	8.2	--
y	6257	808.0	1019.5	41	16	28.6	1.7	56	22	-8	7+	0	26	20	70	1.68	.80	.61	9	0	13.4	8	13.1		52	SE	23	4	7	20	7.6	50
s Vegas	2162	950.9	1017.3	60	36	48.1	1.3	74	23	24	5	0	9	24	40	.02	-.56	.02	1	0	.0	0	6.9	W	*46	SW	1	8	8	15	6.2	78
no	4397	860.5	1017.7	47	24	35.6	2.4	58	6+	-3	30	0	25	26	69	5.25	4.31	2.16	10	0	9.2	5	8.7	S	58	S	21	3	10	18	7.3	67
nnemucca	4299	866.9	1017.9	42	23	32.7	2.7	58	22	4	7	0	26	27	80	2.54	1.54	.75	16	0	15.0	9	10.2	-	61	SW	23	5	5	21	7.4	30
NEW HAMPSHIRE																																
ncord	339	1006.8	1018.1	28	8	18.2	-5.8	45	25	9	21	0	31	10	68	.87	-1.94	.61	9	0	5.6	3	6.7	NNW	29	W	16	12	8	11	5.3	56
. Washington	6262	793.5	------	8	-7	.7	-8.2	29	24	36	20	0	32	--	80	1.49	4.36	.42	14	0	14.0	15	42.1	W	%120	WNW	26	6	9	16	7.4	41
NEW JERSEY																																
lantic City CO	8	1017.0	- -	40	26	32.7	-5.5	61	5	10	21	0	26	-		.90	2.41	.86	4	0	T	T	13.5	---	36	N	10	11	5	15	5.6	56

See footnotes at end of table.

Table 2—Continued

State and station		Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet, Hail		Wind		Fastest mile			No. of days (sunrise to sunset)				
	Elevation (ground)	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	°F	°F	°F	°F	°F		°F				°F	%	In.	In.	In			In.	In.	M p h		M. p. h.			0–3	4–7	8–10	0–10	%
NEW JERSEY (Cont'd.)																																
Newark	11	1019.6	1020.6	37	22	29.3	-4.7	55	3	5	21	0	27	17	61	0.27	-2.83	0.14	5	0	3.8	3	11.5	WNW	*40	WNW	5	12	8	11	5.1	
Trenton CO	56	1013.4	1020.6	36	23	29.4	-5.6	56	3	8	21	0	28	-	--	.19	-2.59	.08	5	0	1.9	1	8.9	---	32	NW	25	12	9	10	4.9	
NEW MEXICO																																
Albuquerque	5310	850.3	1019.1	52	28	40.0	4.0	64	23	17	9	0	24	23	53	.22	-.37	.14	4	0	1.0	1	6.7	N	36	NW	7	16	6	9	4.5	
Clayton	4969	841.6	1018.6	56	24	39.7	4.6	83	23	12	4+	0	25	-	-	.15	-.21	.14	3	0	1.5	1	----	---	--	---	--	13	11	7	4.6	
Raton	6379	803.6	1016.8	51	16	33.8	4.4	74	23	2	4+	0	31	--	-	T	.35	T	0	0	T	T	----	---	--	---	--	13	9	9	4.8	
Roswell	3612	895.4	1019.0	60	26	42.5	1.7	79	23	12	9	0	25	21	45	T	-.53	T	0	0	T	T	7.5	--	42	NW	7	14	9	8	4.2	
NEW YORK																																
Albany	277	1016.1	1019.8	28	13	20.5	-5.9	43	5+	-17	21	0	29	13	73	.88	-1.29	.48	9	0	5.7	1	9.8	WNW	45	NW	25	9	7	15	6.2	
Binghamton	1601	957.6	1019.2	27	13	19.7	-5.7	46	4	-7	21	0	30	15	80	1.25	1.37	.25	19	0	20.2	5	13.7	NW	42	W	25	2	6	23	8.2	
Buffalo	693	991.4	1020.6	31	19	25.1	3.9	54	4	-1	20	0	29	19	76	2.82	-.10	.92	22	1	20.3	8	13.7	WSW	45	WSW	5	0	9	22	8.4	
New York CO	10	1008.3	- ---	37	24	30.3	5.4	53	3	6	21	0	27	--	--	.21	-2.86	.11	5	0	2.8	3	13.5	---	52	NW	19	11	9	11	5.3	
New York	19	1018.7	1020.5	37	25	30.6	5.1	54	3	6	21	0	26	18	60	.31	-2.69	.19	6	0	2.6	2	13.7	NW	50	NW	26	11	9	11	5.4	
Rochester	543	1000.1	1020.4	31	18	24.4	-3.8	56	4	1	20	0	29	19	79	1.73	.67	.54	19	0	24.8	6	13.4	WSW	45	W	5	0	5	26	8.7	
Schenectady	217	-----	-- -	29	17	22.8	3.1	44	25	-12	23	0	29	--	--	1.28	-1.15	.70	9	0	6.6	4	--	---	--	---	--	16	8	7	4.0	
Syracuse	424	998.1	1021.3	29	15	21.7	7.4	53	4	-20	21	0	29	15	75	2.53	-.21	.61	19	0	38.2	11	9.2	WSW	45	NW	29	2	5	24	8.3	
NORTH CAROLINA																																
Asheville	2203	---- -	------	48	27	37.5	2.7	72	24	13	16	0	24	--	--	.93	-2.03	.43	5	0	.6	T	7.5	---	29	NW	9	10	9	12	5.5	
Charlotte	727	993.8	1023.0	51	30	40.8	2.2	77	25	16	17	0	21	27	62	.44	-3.35	.20	7	0	T	0	7.8	NE	32	N	9	11	9	11	5.4	
Greensboro	891	990.1	1023.3	46	26	36.0	-4.1	74	25	14	16	0	26	23	63	.33	-2.78	.09	6	0	.3	T	8.5	SW	33	NW	9	9	10	12	5.8	
Hatteras CO	4	1020.8	1021.5	50	38	44.0	5.5	70	3	26	16+	0	7	36	75	.71	4.38	.32	4	0	T	0	13.5	N	36	W	9	8	12	11	5.9	
Raleigh	433	1008.5	1022.8	48	27	37.3	-5.1	75	25	14	16	0	25	24	63	.59	2.70	.30	4	0	T	0	7.9	N	*22	NW	9	8	10	13	5.6	
Wilmington	30	1021.1	-- ---	54	34	43.6	-5.0	77	4+	18	17	0	16	--	--	.48	2.98	.18	7	0	.0	0	10.3	---	25	N	9	10	10	11	5.5	
Winston-Salem	967	986.5	1023.0	46	28	36.[illegible]	3.7	73	25	15	16	0	26	24	62	.56	-2.67	.19	6	0	1.5	T	7.0	SW	*28	WNW	31	12	7	12	5.4	
NORTH DAKOTA																																
Bismarck	1650	960.0	1022.3	16	-4	6.3	-9.2	42	27	-30	19	0	31	1	78	35	-.05	.14	7	0	5.2	8	11.2	WNW	54	NW	14	5	9	17	6.8	
Devils Lake CO	1471	964.4	------	11	7	1.9	-9.3	38	27	-27	19	0	31	--	--	.76	.28	.21	11	0	8.0	12	9.4	---	32	NW	14	7	3	21	7.3	
Fargo	895	985.8	1022.8	14	3	5.4	-7.5	36	27	-27	19	0	31	-2	72	.47	-.13	.25	7	0	4.9	5	16.5	S	43	SE	27	5	9	17	6.8	
Williston CO	1877	949.2	1020.8	17	2	7.5	8.2	42	12	-26	18	0	31	1	68	49	-.05	.13	10	0	4.5	7	7.2	---	34	W	13	4	4	23	7.8	
OHIO																																
Akron	1210	982.8	1022.5	34	19	26.2	3.9	60	24	6	16+	0	29	19	74	.31	-2.27	.08	11	0	4.2	2	12.4	NW	--	---	--	4	10	17	7.5	
Cincinnati Obs.	761	------	-- --	40	25	32.7	2.3	64	24	7	16	0	25		--	.56	-2.28	.48	5	0	1.8	1	6.6	- -	22	SW	4	--	--	--	---	
Cincinnati	869	989.4	1022.6	41	23	31.9	1.7	63	24	3	16	0	26	22	67	.58	-2.25	.41	7	0	1.8	1	10.0	SSW	*27	SSW	3	8	11	12	6.2	
Cleveland	787	992.8	1021.8	35	22	28.4	-2.5	60	4+	7	16	0	29	20	73	.96	-1.33	.23	14	0	9.8	5	13.4	SW	38	W	4	2	10	19	7.9	
Columbus CO	724	- --	- ----	38	24	30.8	-2.5	59	24	7	16	0	26	--	--	.46	-1.98	.36	6	0	3.1	1	----	--	--	---	--	--	--	--	---	
Columbus	815	991.9	1023.3	39	21	30.1	-1.6	60	24	2	16	0	26	21	70	.46	-2.03	.28	8	0	2.9	1	9.2	SE	30	W	4	8	7	16	6.5	
Dayton	1002	984.8	1022.8	37	21	29.2	-2.5	58	4	2	16	0	29	20	69	.36	-2.11	.31	3	0	2.8	1	12.0	SSE	33	W	4	6	10	15	6.8	
Sandusky CO	603	998.3	--- --	35	23	28.2	-2.9	59	4	8	16	0	28	--	--	.74	-1.42	.25	8	0	3.9	2	7.6	---	38	W	4	5	10	16	7.2	
Toledo	676	995.5	1022.0	33	20	26.4	- -	57	4	3	20	0	29	20	75	.73	----	.36	7	0	3.8	1	10.4	NW	49	SW	4	5	7	19	7.4	
Youngstown	1178	977.6	1021.9	34	19	26.5	3.5	60	4+	8	16+	0	29	21	80	1.02	-1.92	.16	23	0	14.5	3	10.8	WSW	*32	WSW	4	2	10	19	7.9	
OKLAHOMA																																
Oklahoma City	1280	975.6	1020.5	49	26	37.5	-2.7	86	24	12	9	0	24	25	64	.03	-1.45	T	1	0	T	T	13.6	N	45	SW	16	11	7	13	5.5	
Tulsa	672	995.9	1020.9	49	28	38.4	2.4	80	24	14	9+	0	22	27	66	.29	-1.40	.33	3	0	.3	T	11.1	S	42	S	28	8	10	13	5.9	
OREGON																																
Astoria	8	1011.2	1011.8	48	36	41.5	-1.2	55	20+	27	29+	0	10	37	84	16.57	3.36	3.03	23	1	.2	T	9.0	E	--	---	--	4	3	24	7.9	
Burns CO	4140	871.0	1016.2	38	20	29.1	1.4	53	22	8	4	0	28	24	79	2.47	1.03	.68	14	0	26.6	8	----	---	--	---	--	4	6	21	7.7	
Eugene	361	1000.0	1013.9	48	36	42.1	1.5	62	11+	22	31	0	11	--	--	19.49	13.49	4.82	22	1	T	0	10.0	---	--	---	--	3	4	24	8.5	
Meacham	4050	- -	-- - -	34	21	27.7	1.4	50	21	2	14	0	29	--	-	4.89	.59	.91	20	0	23.7	15	----	---	--	---	--	3	3	25	8.5	
Medford	1312	966.8	1015.0	48	35	41.5	3.0	60	22	21	31	0	9	37	87	8.77	5.64	3.05	18	0	.3	T	4.6	SSE	*25	WSW	22+	1	7	23	8.5	
Pendleton	1492	961.4	1016.3	40	26	33.3	-2.0	64	21	9	18	0	20	25	76	1.99	.30	.40	19	0	9.5	4	9.8	SE	*61	WSW	22	4	4	23	8.1	
Portland	21	1008.5	1013.9	45	34	39.2	1.6	61	11	23	31	0	13	34	83	10.14	3.97	2.15	21	0	2.0	1	11.8	ESE	47	SW	22	5	2	24	8.2	
Roseburg	505	995.3	1014.2	50	37	43.3	--	66	11	23	30	0	8	-	--	15.74	10.81	4.03	20	0	T	T	4.9	---	29	N	12+	1	5	25	8.8	
Salem	195	1005.8	1013.4	48	35	41.1	.1	62	21	21	31	0	13	37	85	12.22	5.10	1.99	22	1	T	T	9.6	---	--	---	--	4	3	24	8.2	
Sexton Summit CO	3836	- --	---	39	32	35.4	1.3	52	21+	20	28+	0	19	--	-	14.71	10.01	2.80	23	0	20.5	8	----	---	--	---	--	4	3	24	8.5	
PENNSYLVANIA																																
Allentown	376	1006.8	1021.6	34	18	25.8	5.3	54	3	3	21	0	29	17	69	.39	-2.63	.17	6	0	3.7	2	10.8	WNW	--	---	--	11	8	12	5.5	
Harrisburg	335	1007.7	1022.1	37	21	28.5	5.4	55	25	8	22	0	28	15	58	.23	-2.33	.11	5	0	3.4	1	7.9	WNW	33	NW	19	11	9	11	5.8	
Philadelphia CO	26	------	-- - -	39	26	32.1	5.3	57	25	11	21	0	27	--	--	.23	-2.54	.17	5	-	----	-	-- -	--	--	---	--	--	--	--	---	
Philadelphia	10	1016.7	1021.3	38	23	30.5	5.4	57	3+	9	21	0	27	19	62	.25	-2.42	.19	5	0	1.1	1	9.0	NNW	38	NW	15	10	10	11	5.5	
Pittsburgh CO	749	-----	--	39	25	32.1	3.1	66	4+	9	16	0	25		-	.17	-2.40	.09	4		1.0	-	---	---	--	---	--	--	--	--	---	
Pittsburgh	1151	990.6	1022.1	36	21	28.9	-2.0	63	4+	5	16	0	28	21	72	.40	-2.11	.11	11	0	2.6	1	10.9	WSW	*28	WSW	4+	4	10	17	7.3	
Reading CO	266	1008.7	1021.3	36	23	29.5	5.3	56	3	9	21	0	27	--	--	.17	-2.63	.08	5	0	1.2	1	10.5	---	42	N	26	11	6	14	5.7	
Scranton	940	985.5	1021.4	31	17	23.5	6.1	49	4	1	21	0	29	16	70	.37	-2.00	.15	8	0	7.8	3	6.2	NW	49	SW	31	3	10	18	7.4	
Shippingport CO	736	-- --	-- ---	37	22	29.6	--	65	4	9	16	0	28	-	-	.10	--	.07	2	0	T	T	3.3	---	%32	WNW	4	--	--	--	---	
Williamsport	527	1001.7	-----	33	18	25.9	5.0	50	4	-1	21	0	30	-	--	.84	-1.83	.31	10	0	8.5	4	----	---	--	---	--	1	11	16	7.0	
RHODE ISLAND																																
Block Island	110	1013.8	1018.4	35	23	28.8	6.3	48	4	2	21	0	27	--	--	.83	-2.53	.27	7	0	4.9	2	----	---	--	---	--	10	9	12	5.8	
Providence	55	1012.5	1018.8	34	17	25.5	-6.1	47	25	-3	21	0	28	14	61	.58	2.87	.33	6	0	2.2	1	10.0	WNW	*25	NW	19+	13	6	12	4.9	
SOUTH CAROLINA																																
Charleston CO	9	-- --	-- -	56	41	48.4	-3.8	75	4	29	17	0	4	-	-	.89	-1.82	.40	7	0	T	0	10.2	---	31	N	30	8	7	16	6.5	
Charleston	41	1020.9	1022.7	58	37	47.1	-3.4	78	4	18	17	0	10	36	70	.83	-1.88	.26	8	1	T	0	10.2	NNE	--	---	--	9	7	15	6.2	
Columbia	217	1013.8	1022.4	55	32	43.9	-3.1	79	25	14	17	0	17	31	66	.32	-3.27	.11	5	0	.0	0	6.7	NE	*25	WNW	15	12	7	12	5.4	
Florence	146	1016.6	-- --	54	32	43.3	-3.2	81	25	11	17	0	17	-	-	.36	-2.89	.16	5	1	T	0	--	---	--	---	--	11	8	12	5.4	
Greenville	1018	983.7	1022.2	19	33	41.0	-3.1	78	25	20	16	0	21	27	61	1.05	3.46	.40	6	1	T	0	10.2	ENE	36	W	24	11	8	12	5.6	
Spartanburg	801	- ---	- -	50	31	40.2	-3.7	78	25	18	16	0	22		-	.69	-3.30	.35	7	1	T	T	8.2	---	*32	NW	31	--	--	--	---	
SOUTH DAKOTA																																
Huron	1282	971.9	1022.3	18	1	9.2	-10.4	39	27	-24	9+	0	31	5	81	1.08	.63	.75	8	0	15.7	12	12.6	SSE	49	NW	14	6	7	18	6.7	
Rapid City	3165	900.1	1019.1	32	11	21.8	-3.9	66	23	8	18	0	29	14	76	.68	.34	.30	10	0	8.7	4	8.6	NNW	60	W	23	8	5	18	6.9	
Sioux Falls	1420	966.8	1022.1	22	2	12.0	-7.4	45	23	-21	18+	0	31	4	68	1.75	1.08	1.44	8	0	17.2	14	11.5	NW	*35	NE	3	8	8	15	6.6	
TENNESSEE																																
Bristol	1519	966.5	- --	45	26	35.5	3.2	69	24+	13	16	0	24	--	--	2.52	-.91	.96	8	0	2.6	0	----	---	--	---	--	9	8	14	6.0	
Chattanooga	670	994.8	1023.7	51	31	40.8	1.3	75	25	17	16	0	18	30	69	2.32	-2.99	1.07	7	2	T	0	6.2	SSW	30	SW	24	8	10	13	6.1	
Knoxville	950	986.7	1023.2	48	30	38.8	2.2	73	25	17	16	0	20	30	71	2.73	-1.53	1.33	9	0	T	0	6.0	NE	31	SW	24	10	7	14	6.0	
Memphis CO	271	- --	----	50	35	42.8	1.6	75	24	19	16	0	17	--	--	1.72	-3.07	.96	6	0	T	T	----	---	--	---	--	--	--	--	---	
Memphis	263	1007.6	1022.7	52	33	42.5	-.8	76	24	15	16	0	18	31	66	1.05	4.04	.55	7	1	T	T	10.6	N	34	S	24	8	10	13	6.1	
Nashville	577	1002.6	1023.1	49	30	39.5	-2.1	71	24	10	16	0	19	31	72	1.21	-2.85	.62	6	1	T	0	8.8	SSE	24	NW	8	10	8	13	5.7	
Oak Ridge	905	988.9	----	18	29	38.1	-.7	72	25	16	16	0	21		-	5.49	-.17	3.45	8	2	T	T	4.3	SW	18	NE	26	8	6	17	6.5	
TEXAS																																
Abilene	1759	957.0	1019.5	60	33	46.7	.9	89	24	22	15	0	17	27	50	.05	-1.32	T	1	0	.0	0	12.6	SSW	36	S	16	16	6	9	4.0	
Amarillo	3590	889.3	1017.6	57	26	41.2	3.9	81	24	12	19	0	26	19	48	.10	-.57	.10	1	0	1.8	1	13.6	SW	50	N	7	11	10	10	5.2	

See footnotes at end of table.

able 2—Continued

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths sunrise to sunset	Possible sunshine
												No. of days							No. of days		Snow, Sleet, Hail				Fastest mile							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min 32° F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Max depth on ground	Average hourly speed	Prevailing direction	Speed	Direction	Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb.	Mb.	°F.	°F.	°F	°F.	°F		°F		#		°F.	%	In.	In	In			In.	In.	M p. h.		M p. h.			0–3	4–7	8–10	0–10	%
TEXAS (Cont'd.)																																
stin	615	998.6	1020.8	65	40	52.5	0.3	90	25	23	16	1	4	36	63	1.01	-1.70	1.69	2	0	0.0	0	9.6	N	32	N	8	13	12	6	4.2	71
ownsville	16	1016.6	1019.2	74	54	63.9	1.5	84	18+	38	16	0	0	56	80	.09	-2.07	.03	3	0	.0	0	10.9	NNW	35	S	23	13	10	8	5.0	56
rpus Christi	40	1019.0	1020.0	69	49	59.3	1.3	83	23	33	9	0	0	51	80	.42	-1.85	T	1	1	.0	0	8.9	NNE	27	N	8	13	8	10	4.8	59
llas	487	1002.0	1021.2	58	37	47.4	-.9	89	24	21	16	0	9	33	61	.29	-2.33	.01	2	0	.0	0	11.0	SSE	33	S	13	13	9	9	4.7	63
l Rio	1091	985.1	1020.2	66	39	52.7	-.5	89	24	28	9+	0	4	36	58	.23	-.65	.23	1	0	.0	0	7.3		24	[illegible]	8	16	10	5	3.7	68
Paso	3920	888.6	1018.4	63	36	49.4	4.6	75	29	25	9	0	10	24	40	.00	-.49	.00	0	0	.0	0	11.7	N	47	W	6	17	5	9	4.0	83
rt Worth	544	1000.0	1021.5	58	36	47.1	-1.0	88	24	18	16	0	9	32	59	.21	-2.27	.01	2	0	.0	0	11.8	S	*31	S	13	14	7	10	4.5	--
lveston CO	7	------	-----	63	52	57.1	.1	74	3	33	16	0	0	-	-	2.41	-1.85	1.12	6	--	.0	0	12.5		35	NW	8			-	--	52
lveston	5	1018.3	1020.7	63	51	57.1	.6	75	3	32	16	0	1	50	79	3.07	-1.75	1.23	6	3	.0	0	17.5	NE		-		10	10	11	5.3	-
uston CO	41	1015.2	- ----	66	49	57.3	1.5	82	24	29	16	0	2	-		1.90	-2.73	1.45	5	0	.0	0	9.3		37	NW	8	13	6	12	5.2	53
uston	50	1017.6	1020.9	66	47	56.2	1.0	81	3+	27	16	0	2	47	75	1.60	-2.86	1.32	7	1	.0	0	11.5	ESE	-	---	-	10	8	13	5.6	--
redo	500	1004.1	1019.3	72	48	59.8	.5	91	25	34	16	1	0	47	67	.09	-1.35	.08	2	0	.0	0	7.8	SSE	*22	SSE	13	14	10	7	4.0	-
bbock	3243	904.8	1018.3	60	[illegible]	44.4	3.8	80	23	18	15	0	24	23	48	T	-.66	T	0	0	.0	0	15.6	WSW	*46	NNW	7	15	8	8	4.3	--
dland	2854	918.4	1018.9	63	34	48.3	2.9	82	23+	23	9	0	15	25	45	T	-.75	T	0	0	.0	0	8.2	WSW	*32	N	7+	16	8	7	3.9	--
rt Arthur	16	1019.3	1020.9	65	47	55.8	1.7	78	3+	24	16	0	2	48	78	4.80	-.67	2.42	6	3	.0	0	12.0	N	38	NW	8+	11	7	13	5.5	52
n Angelo	1903	951.6	1019.9	63	36	49.2	.4	87	24	23	9+	0	11	28	49	.02	-1.11	.02	1	0	.0	0	11.1	SW	*40	NNE	8	17	8	6	3.6	-
n Antonio	792	994.9	1020.3	66	41	53.5	.4	90	25	26	16	1	6	38	63	.66	-1.26	1.02	4	1	.0	0	7.9	[illegible]	43	N	15	16	6	9	4.0	69
ctoria	110	1015.6	1020.3	68	46	56.9	.1	81	23+	28	16	0	2	46	68	.37	-2.70	.55	4	0	.0	0	9.2	-	%37	NNW	8+	12	8	11	5.0	--
co	500	999.7	1020.8	61	38	49.7	-.5	91	24	20	16	1	8	36	63	.43	-2.31	T	1	0	.0	0	12.5	S				13	9	9	4.5	--
chita Falls	1027	981.4	1020.2	56	30	43.0	-.8	87	24	19	9	0	22	26	56	.10	-1.37	T	1	0	T	T	10.7	S	*29	SSW	16	15	8	8	4.2	--
UTAH																																
lford	5028	844.6	1019.6	47	23	35.0	7.0	60	13+	4	5	0	27	-		.05	-.70	.04	2	0	1.0	1	-					4	7	20	7.5	--
lt Lake City	4220	867.6	1018.5	44	30	37.1	5.6	59	25	17	5	0	22	28	70	1.09	-.25	.59	10	0	10.1	3	10.3	S	54	S	25	1	5	25	8.5	34
VERMONT																																
rlington	331	1004.0	1019.5	24	9	16.7	-6.1	41	25	-22	21	0	31	6	61	.71	-1.17	.27	15	0	13.2	4	9.4	S	33	S	24	3	5	23	8.1	28
VIRGINIA																																
nchburg	947	987.7	-- -	43	25	34.1	-4.8	71	25	9	16	0	26	--	-	.61	-2.54	.21	5	0	1.1	T	7.2		24	NW	19	11	8	12	5.6	57
rfolk	26	1021.3	1022.5	45	30	37.8	-5.0	73	25	19	22	0	23	28	71	2.14	-.74	.95	6	0	.9	1	11.4	NNE	25	NE	25	10	10	11	5.5	64
chmond	162	1016.5	1022.9	45	25	34.8	-4.7	74	25	15	28	0	27	24	67	.86	-2.03	.50	5	0	T	T	6.7	N	26	N	16	12	8	11	5.6	58
anoke	1174	979.0	1022.8	44	24	34.2	-4.8	69	24	10	16	0	26	21	61	.84	-2.29	.46	6	0	2.3	T	7.5	NW	--	--	-	11	7	13	5.5	--
WASHINGTON																																
ympia	190	1004.7	1012.5	45	31	37.7	-1.7	55	11	19	30+	0	19	33	83	12.59	3.93	2.44	22	0	14.5	10	7.9	SSW	*38	S	24	4	4	23	8.2	--
attle CO	14	---- -		46	37	41.3	-1.8	56	11	28	18	0	7			8.00	2.66	1.85	21	1	6.9	5	10.5	--	57	SW	6	4	5	22	7.9	36
attle	14	1011.9	1012.7	--			- -		-	-	-	-	--	34	79	- --	- -	---	-	--	- -	--	7.0	SSE	--	-		-			- -	--
attle Tacoma	379	998.3	1012.9	44	33	38.4	-1.4	55	11	24	31	0	13	34	84	9.50	3.82	2.01	19	2	6.1	5	13.0	ESE	*51	SW	22	3	6	22	8.2	--
okane	2357	945.5	1016.3	33	21	26.8	-2.3	49	26	-1	18	0	30	23	83	3.82	1.61	.92	19	0	18.5	10	7.8	NE	48	SW	22	5	2	24	8.1	24
ampede Pass CO	3958	873.0	1014.7	27	18	22.1	-4.1	42	11	3	18	0	31	-		15.19	.53	5.18	23	0	58.8	99	-	---	—		--	3	3	25	8.5	--
toosh	101	1007.1	1010.4	44	37	40.7	-3.4	50	7+	29	18	0	3	35	81	9.00	-3.04	1.68	23	2	6.6	2	20.9	E	72	E	18	4	3	24	8.2	22
lla Walla CO	949	980.0	1016.9	41	28	34.2	2.1	64	11+	11	18	0	21	-		2.49	.68	.64	20	0	10.4	6	5.6	---	33	SW	22	3	3	25	8.6	16
kima	1061	976.6	1017.3	33	16	24.7	-5.9	50	22	1	14	0	31	20	82	3.22	2.12	1.27	15	0	19.0	13	5.4	W				7	3	21	7.4	--
WEST VIRGINIA																																
arleston	950	986.3	1022.9	44	24	33.7	-4.4	70	24	8	13+	0	25	23	67	1.23	-1.75	.39	10	0	5.0	3	6.1	SW	21	NW	15	8	6	17	6.6	--
kins	1970	------	-	--		--	--	--	-	--	-	--	--	19	--	--	--	---		-			5.9	WNW	-	---	--	-	--	--	---	-
ntington CO	565	------	- ----	45	25	34.6	-4.5	70	24	9	16	0	25			1.27	-1.90	.40	6	0	1.1	1	-	---	--	--				--	---	-
rkersburg CO	615	- --	---	42	24	32.9	-3.2	67	24	8	16	0	26	-	-	.72	-2.18	.45	6	0	1.3	1	5.3	---	20	W	15	10	6	15	5.8	52
WISCONSIN																																
een Bay	689	997.6	1021.6	25	9	16.8	-3.3	42	24	-8	19	0	31	10	70	.89	-.37	.53	7	0	4.8	3	11.6	NW	43	SW	4	4	9	18	7.3	41
Crosse	669	995.9	1022.2	25	6	15.4	-5.1	42	24	-15	19	0	31	9	72	.78	-.44	.30	13	0	8.0	4	8.4	S	*29	WNW	14	8	3	20	7.1	--
dison	857	984.8	1022.0	28	12	19.6	-3.4	52	24	-6	19	0	31	11	70	.59	-.81	.38	8	1	2.8	2	9.6	NW	47	SW	4	6	7	18	6.8	46
lwaukee	675	995.6	1021.7	30	15	22.6	-3.1	54	24	-3	19	0	29	13	68	1.09	-.39	.65	9	1	5.2	2	15.8	WNW	40	SW	4	6	11	14	6.7	41
WYOMING																																
sper	5322	834.1	1016.1	37	17	27.2	1.7	53	27	-6	3	0	24	16	65	1.04	.39	.42	8	0	14.5	6	18.7	SSW	*63	SSW	23	5	8	18	6.9	--
eyenne	6131	808.0	1016.2	42	20	31.2	2.5	61	27	-2	4+	0	24	18	60	.32	-.20	.25	6	0	3.8	4	15.6	W	63	W	24	8	11	12	6.4	45
nder	5563	832.7	1018.9	35	11	23.2	2.8	57	22	-21	5	0	29	13	67	1.51	1.02	.98	[illegible]	0	19.9	14	7.2	-	66	W	21	11	9	11	5.5	66
eridan	3942	882.5	1019.1	32	10	21.3	-2.7	66	22	10	30	0	29	14	74	2.03	1.36	.43	16	0	27.6	9	8.3	WNW	63	NW	22	6	10	15	6.8	41
PACIFIC AREA																																
nton Island	9	1008.8	1009.2	86	77	81.2	-1.8	87	10+	75	24	0	0	70	73	.19	-.76	.09	3	0	.0	0			--		--	11	12	8	5.8	--
lo	31	1013.5	1015.1	79	63	71.2	-.2	85	22	58	18	0	0	63	80	4.90	-11.09	2.37	17	2	.0	0	8.4	SSW	*28	S	20	3	9	19	7.4	49
nolulu	7	1014.6	1015.3	80	67	73.5	-.2	85	29	63	17	0	0	64	75	12.09	8.09	8.14	8	0	.0	0	7.7	NE	42	SW	20	6	8	17	7.0	50
ror CO	94	1004.7	1008.6	87	76	81.3	.5	90	3	73	12	1	0	76	83	7.51	-6.02	1.37	23	0	.0	0	----	-	--	---	--	0	1	27	9.2	--
hue	115	1009.1	1014.4	79	65	72.2	.7	82	3	61	9+	0	0	65	81	8.80	3.45	3.72	14	2	.0	0	8.4	W	37	S	19	4	11	16	7.3	33
juro	10	1007.8	1008.1	85	76	80.1	--	87	2+	72	6+	0	0	75	84	15.06	-	3.82	26	0	.0	0	----		-		--	1	6	24	8.4	--
nape CO	112	1003.4	1009.1	86	73	79.3	-1.6	90	1+	68	20	3	0	75	87	24.79	7.60	5.07	23	3	.0	0	-	---	--	---	--	0	5	26	8.7	--
uk(Moen Island)	8	1008.5	1008.8	86	76	81.3	.2	88	2+	72	18	0	0	75	81	9.88	-2.27	3.39	21	2	.0	0	-	-	--	---	--	1	6	24	8.5	--
ke Island	11	1011.5	1011.9	83	73	77.8	-1.2	88	2	65	23	0	0	66	69	1.70	-.37	.87	10	0	.0	0	12.3	N	--	---	--	12	14	5	4.6	-
p CO	53	1006.4	1008.5	87	76	81.4	.2	94	3	73	12+	5	0	76	82	12.32	2.17	5.05	22	7	.0	0	----	---	--	---		0	0	31	10.0	--
WEST INDIES																																
n Juan CO	47	-- -	-	82	72	76.8	.3	85	22	69	27	0	0		-	5.30	.47	1.80	16	0	.0	0	----	-			-				---	-
n Juan P.R.	9	1012.8		83	68	75.6	--	86	9+	65	16	0	0	69	81	7.03		2.67	21	0	.0	0	8.4	ENE	29	N	30	9	12	10	5.6	67
ALASKA																																
chorage	92	1005.4	1010.8	16	0	8.1	-5.7	37	30	-27	10	0	31	-1	63	2.67	1.83	1.62	13	0	41.6	47	6.9	NNE	*40	NNE	19	9	3	19	6.8	40
nette	110	1005.8	1009.8	33	24	28.7	7.4	46	6	9	26	0	22	20	71	4.38	-4.73	1.71	14	1	3.7	1	15.4	N	*52	S	7	7	0	24	7.6	--
rrow	22	1022.7	1023.4	-9	-26	-17.5	-7.1	25	20	-45	11+	0	31	27	64	.38	.18	.09	6	0	3.8	7	10.7	NE	36	W	22	b	b	b	b	-
thel	10	1015.9	1017.3	15	-3	6.0	-1.2	35	11	29	30	0	31	1	79	.36	-.49	.09	8	0	6.0	8	12.5	NNW	*32	S	26	9	3	19	6.7	--
ld Bay	90	1011.2	1015.3	34	25	29.0		45	[illegible]	4	29+	0	25	26	85	1.04		.67	12	0	2.5	3	14.6	NNW	*37	WSW	1+	2	5	24	8.2	--
rdova	40	------	- - -	28	11	19.2	-7.4	39	29+	-12	11	0	31			10.77	3.81	4.66	15	0	64.3	30		---	-			6	5	20	7.2	--
irbanks	436	1001.4	1019.8	0	-18	-9.0	.1	31	16	-47	11	0	31	-17	69	1.83	1.33	.55	15	0	27.5	29	3.7	NE	*23	NE	5	5	4	22	7.9	--
neau	15	1011.5	1012.3	24	12	18.1	-9.5	40	30	10	25+	0	27	9	69	2.86	-1.31	.67	14	0	39.2	17	10.3	ESE	34	E	20	10	2	19	6.9	33
ng Salmon	44	1010.5	1013.1	16	-3	6.4		39	12	-23	9+	0	31	2	79	.86		.26	10	0	11.6	10	12.2	N	*42	N	30	13	2	16	5.7	--
tzebue	10	1019.3	1019.8	5	-9	-2.1	1.6	34	14+	-34	29	0	31	-7	79	.37	.02	.09	11	0	14.0	22	18.1	E	*48	W	27	14	3	14	5.2	--
Grath	334	1005.4	1019.1	1	-18	-8.5	-1.2	30	14	-52	10	0	31	-16	71	.85	-.40	.30	10	0	8.5	15	4.4	N	*25	NNW	22	8	5	18	6.7	--
me	13	1018.0	1018.5	14	-2	6.2	-1.5	34	15	-34	31	0	31	0	78	1.24	.08	.33	11	0	12.7	21	11.8	E	47	NE	3	12	2	17	5.9	39
rthway	1713	951.9	-- --	-10	-30	-20.1	-5.3	24	16	-57	11	0	31	--		.42	.05	.14	10	0	21.7	24	-		--			5	4	22	7.9	--
. Paul Island	22	1015.2	1016.4	33	27	30.0	.7	40	13+	6	30	0	21	27	88	.67	-1.32	.35	13	0	2.4	2		---	--	-		2	5	24	8.4	--
kutat	28	1006.8	1008.0	28	13	20.4	-7.4	40	29	15	25	0	30	17	82	10.94	-1.37	2.44	18	0	51.3	27	11.7	E	*50	SE	29	8	2	21	7.2	--

Data from airport unless otherwise specified. CO indicates data from city office
- * Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument
- + And also on a later date or dates
- % Peak gust.
- a Maximum hourly average.
- # Number of days Maximum 70° or above for Alaskan stations.
- b Sun below horizon entire month.

HEATING DEGREE DAYS

(Base 65°F.)

Table 3

DECEMBER 19

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	607	1242	1130
Mobile	370	722	623
Montgomery	513	999	864
ARIZONA			
Flagstaff	958	2641	2967
Phoenix (CO)	232	383	555
Phoenix	278	460	645
Prescott	693	1421	1720
Tucson	288	486	649
Winslow	725	1488	1903
Yuma	202	298	364
ARKANSAS			
Ft. Smith	769	1421	1273
Little Rock	693	1276	1179
Texarkana	600	1093	913
CALIFORNIA			
Bakersfield	383	744	819
Bishop	793	1638	1675
Blue Canyon	903	2148	2006
Burbank	332	568	580
Eureka (CO)	451	2229	2033
Fresno	455	935	1011
Los Angeles (CO)	279	487	451
Los Angeles	283	557	697
Mt. Shasta (CO)	893	2359	2326
Oakland	428	1322	1238
Red Bluff	519	964	942
Sacramento (CO)	452	871	980
Sacramento	475	955	1072
Sandberg (CO)	677	1403	1403
San Diego	236	445	496
San Francisco (CO)	362	1494	1247
San Francisco	406	1369	1360
San Jose	396	898	861
Santa Maria	374	1345	1113
COLORADO			
Alamosa	1239	3269	3621
Colorado Springs	920	2310	2391
Denver	911	2233	2364
Grand Junction	900	2100	2293
Pueblo	887	2067	2279
CONNECTICUT			
Bridgeport	1143	2090	2059
Hartford	1256	2501	2280
New Haven	1177	2253	2163
DELAWARE			
Wilmington	1081	1997	1841
DIST. OF COLUMBIA			
Washington (CO)	951	1706	1604
Washington	968	1743	1630
FLORIDA			
Apalachicola (CO)	319	511	475
Daytona Beach	193	301	288
Fort Myers	84	116	126
Jacksonville (CO)	314	472	416
Jacksonville	330	510	473
Key West (CO)	2	2	18
Miami (CO)	24	34	53
Miami	17	24	60
Miami Beach	9	14	37
Orlando	152	225	222
Pensacola (CO)	329	611	529
Tallahassee	368	686	606
Tampa	154	223	223
West Palm Beach	29	41	69
GEORGIA			
Athens	702	1312	1109
Atlanta	664	1235	1125
Augusta	611	1145	835
Columbus	551	1073	951
Macon	540	1000	824
Rome	724	1475	1256
Savannah	507	877	675
IDAHO			
Boise	912	2386	2340
Lewiston	1018	2576	2247
Pocatello	1026	2718	2727
ILLINOIS			
Cairo (CO)	857	1607	1465
Chicago (CO)	1141	2250	
Chicago	1205	2412	2352
Chicago University	1184	2364	
Moline	1259	2600	2434
Peoria	1194	2440	2323
Springfield	1121	2272	2193
INDIANA			
Evansville	971	1919	1715
Ft. Wayne	1185	2446	2382
Indianapolis	1119	2290	2141
South Bend	1206	2515	2442
IOWA			
Burlington	1221	2535	2334
Des Moines	1343	2769	2472
Dubuque	1425	2973	2801
Keokuk (CO)	1103	2217	
IOWA (Cont'd.)			
Sioux City	1444	2959	2733
KANSAS			
Concordia (CO)	1159	2274	2048
Dodge City	999	2017	1951
Goodland	1113	2468	2461
Topeka (CO)	1068	2078	1891
Topeka	1074	2132	2027
Wichita	980	1911	1763
KENTUCKY			
Lexington	968	1932	1884
Louisville	919	1806	1733
Pikeville (CO)	870	1605	
LOUISIANA			
Baton Rouge	333	651	615
Lake Charles	304	563	593
New Orleans (CO)	301	507	429
New Orleans	314	571	484
Shreveport	493	923	848
MAINE			
Caribou	1667	3852	3918
Greenville (CO)	1631	3681	
Portland	1448	3103	2847
MARYLAND			
Baltimore (CO)	958	1749	1537
Baltimore	1037	1943	1818
Frederick	1089	2193	1841
MASSACHUSETTS			
Blue Hill Obs.	1290	2663	
Boston	1181	2263	2015
Nantucket	1122	2205	2078
Pittsfield	1433	3073	2933
MICHIGAN			
Alpena (CO)	1302	2925	2962
Detroit	1165	2362	2333
Detroit (Willow Run)	1179	2445	2383
East Lansing (CO)	1215	2540	
Escanaba (CO)	1388	3096	3213
Grand Rapids (CO)	1180	2431	2382
Grand Rapids	1219	2595	2640
Marquette (CO)	1381	3194	3167
Muskegon	1203	2570	2593
S. Ste. Marie	1477	3423	3575
MINNESOTA			
Duluth (CO)	1716	3929	3690
Duluth	1751	4040	3842
Internat. Falls	1923	4444	4223
Minneapolis	1631	3365	3015
Rochester	1613	3429	3144
St. Cloud	1764	3815	3483
MISSISSIPPI			
Jackson	517	1037	882
Meridian	528	1076	956
Vicksburg (CO)	476	910	775
MISSOURI			
Columbia	1031	2043	1973
Kansas City	1020	1960	1875
St. Joseph	1142	2309	2048
St. Louis (CO)	945	1813	1703
St. Louis	979	1910	1805
Springfield	958	1906	1841
MONTANA			
Billings	1305	3158	2767
Glasgow (CO)	1762	4055	3458
Great Falls	1318	3522	2959
Havre (CO)	1605	4031	3298
Helena	1427	3744	3349
Kalispell	1364	3833	3334
Miles City	1526	3532	3068
Missoula	1370	3634	3270
NEBRASKA			
Grand Island	1358	2772	2459
Lincoln (CO)	1233	2479	2250
Norfolk	1481	3062	2744
North Platte	1354	3006	2581
Omaha	1284	2618	2373
Scottsbluff	1210	2840	2638
Valentine (CO)	1458	3212	2730
NEVADA			
Elko	1173	3068	2905
Ely	1121	2988	2930
Las Vegas	520	887	969
Reno	905	2363	2426
Tonopah	940	2134	2241
Winnemucca	995	2688	2612
NEW HAMPSHIRE			
Concord	1446	3038	2907
Mt. Washington Obs.	1992	5995	
NEW JERSEY			
Atlantic City (CO)	992	1737	1597
Newark	1101	1992	1912
Trenton (CO)	1095	1988	1852
NEW MEXICO			
Albuquerque	764	1494	1757
Clayton	777	1835	1991
Roswell	692	1326	1415
NEW YORK			
Albany	1377	2771	2583
Binghamton	1396	2934	2851
Buffalo	1229	2490	2470
New York (CO)	1069	1908	1771
New York	1058	1816	1732
Rochester	1251	2598	2516
Schenectady	1300	2570	
Syracuse	1333	2611	2369
NORTH CAROLINA			
Asheville (CO)	845	1733	1633
Asheville	902	1906	
Charlotte	748	1346	1274
Greensboro	890	1670	1513
Hatteras (CO)	645	981	788
Raleigh	850	1546	1304
Wilmington	659	1112	869
Winston-Salem	861	1563	1458
NORTH DAKOTA			
Bismarck	1820	4083	3524
Devils Lake (CO)	1955	4425	3903
Fargo	1845	3999	3604
Grand Forks	1932	4290	
Pembina	1955	4258	
Williston (CO)	1778	4109	3566
OHIO			
Akron	1194	2499	2298
Cincinnati (CO)	919	1779	1711
Cincinnati	1019	2057	1999
Cleveland	1127	2285	2181
Columbus	1075	2154	2139
Dayton	1102	2238	2128
Sandusky (CO)	1123	2227	2116
Toledo	1289	2574	2376
Youngstown	1185	2524	2274
OKLAHOMA			
Oklahoma City	849	1600	1417
Tulsa	816	1505	1382
OREGON			
Astoria	720	2430	1961
Burns (CO)	1107	2919	2829
Eugene	702	2103	1939
Meacham	1150	3483	3105
Medford	723	1863	1849
Pendleton	976	2443	2095
Portland (CO)	729	1866	1627
Portland	793	2126	1817
Roseburg	665	1872	
Salem	731	2064	1815
Sexton Summit (CO)	912	2739	2373
PENNSYLVANIA			
Allentown	1209	2359	2205
Harrisburg	1124	2166	1971
Philadelphia (CO)	1010	1733	1624
Philadelphia	1061	1919	1791
Pittsburgh (CO)	1013	2011	1890
Pittsburgh	1115	2312	2268
Reading (CO)	1092	2018	1871
Scranton (CO)	1277	2563	2272
Williamsport	1207	2445	2250
RHODE ISLAND			
Block Island	1115	2081	1963
Providence	1219	2383	2221
SOUTH CAROLINA			
Charleston (CO)	508	775	658
Charleston	549	976	778
Columbia	648	1159	978
Florence	667	1154	1015
Greenville	740	1346	1200
Spartanburg	760	1354	1211
SOUTH DAKOTA			
Huron	1726	3615	3029
Pierre	1688	3520	
Rapid City	1331	3133	2858
Sioux Falls	1639	3436	3062
TENNESSEE			
Bristol	922	1851	1688
Chattanooga	745	1511	1380
Knoxville	806	1599	1454
Memphis	695	1340	1248
Nashville	785	1573	1372
TEXAS			
Abilene	576	1026	1048
Amarillo	731	1584	1730
Austin	384	660	646
Brownsville	105	177	218
Corpus Christi	204	335	365
Dallas	550	951	870
Del Rio	380	637	585
El Paso	477	828	1086
Ft. Worth	553	964	890
Galveston (CO)	246	398	402
Galveston	245	404	418
TEXAS (Cont'd.)			
Houston (CO)	260	462	46
Houston	290	507	50
Laredo	186	318	30
Lubbock	633	1325	144
Midland	512	969	
Port Arthur	297	571	58
San Angelo	492	896	85
San Antonio	359	611	60
Victoria	269	454	40
Waco	478	839	75
Wichita Falls	680	1222	118
UTAH			
Milford	923	2299	255
Salt Lake City	858	2227	227
VERMONT			
Burlington	1496	3075	29
VIRGINIA			
Lynchburg	950	1809	16
Norfolk	837	1392	12
Richmond	928	1678	15
Roanoke	947	1802	16
WASHINGTON			
Olympia	841	2625	22
Seattle (CO)	730	2141	17
Seattle-Tacoma	818	2560	21
Spokane	1179	3173	27
Stampede Pass (CO)	1322	4562	38
Tatoosh Island (CO)	750	2863	24
Walla Walla (CO)	949	2309	19
Yakima	1244	3014	24
WEST VIRGINIA			
Charleston	963	1891	17
Elkins	1140	2451	22
Huntington (CO)	933	1785	15
Parkersburg (CO)	990	1941	18
WISCONSIN			
Green Bay	1488	3201	31
La Crosse	1531	3122	29
Madison (CO)	1392	2882	27
Madison	1398	2945	28
Milwaukee	1308	2727	26
WYOMING			
Casper	1163	2963	30
Cheyenne	1041	2780	29
Lander	1292	3132	33
Sheridan	1345	3283	31
ALASKA			
Anchorage	1758	5554	48
Annette	1120	3742	3
Barrow	2562	9599	83
Bethel	1828	5869	5
Cold Bay	1108	4405	
Cordova	1413	4878	4
Fairbanks	2300	6955	6
Juneau	1447	4722	3
King Salmon	1816		
Kotzebue	2081	6960	66
McGrath	2284	7069	6
Nome	1822	6374	5
Northway	2643	7879	6
St. Paul	1081	4810	4
Yakutat	1376	4658	4

Data from airport unless otherwise specified.
CO indicates data from city office.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4

December 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
owa	1-3				1	7	$7,000	$0	Snow, sleet, ice, and wind	Utility wires and poles down from ice. Numerous accidents (1 fatal) on slippery highways. Accidents continued nearly 3 weeks as cold weather prevented clearing streets and highways.
	1-3									Minor storm also reported in Kansas.
olbert County, la.	3	3:50 p.m.					30,000	0	Wind (possible tornadoes), rain, and electrical	Press reports indicate more or less scattered nature of damage in northwestern Colbert County, with damage mostly in Margerum and Allsboro, while 45 m.p.h., wind occurred at Muscle Shoals in eastern portion of County. Storm diagnosed as straight wind, but possibility of twin tornadoes, 1 at Margerum and the other at Allsboro not completely ruled out. 3 houses destroyed, school house unroofed, and about 20 other houses damaged. Storm moved northeastward.
rown, Cass, La Salle, and Grundy Counties, Ill.	3	4-8 p.m.	155	40-100	0	0	35,000	300	Tornadoes, wind, and rain	First reported damage 6 miles southeast of Mt. Sterling and last damage area 5 miles west of Gardner. All reported damage within 5 miles of a 155 mile line connecting these 2 points. Reports indicate that funnel cloud touched ground in 4 different areas along main path. Lengths of these minor paths varied from 1/2 to 3 miles. Reports from 7 different damage sites clearly indicate tornado in 5 cases. Speed between different portions of main path ranged from 21 to 50 m.p.h. Directions of movement northeastward. Evidence of a single tornado or separate tornadoes developing from single cloud.
hiawassee County (eastern portion), Mich.	3	11:30 p.m.			0	0	20,000	0	Wind, rain, hail, and electrical	High winds accompanying thunderstorm wrecked 2 barns, a garage, and a house trailer, tore steeple off church, and ripped off number of TV antennas.
innesota	3-4				1	1	Light	0	Snow, wind, and electrical	Heavy snow blanketed State, heaviest accumulation 11 inches at Duluth. Many primary and secondary roads closed. Numerous automobile accidents. At Duluth, waves from Lake Superior glazed highway and gusts of wind blew automobile into lake; occupants rescued. Wind driven waves broke windows in lighthouse, injuring tender. One woman died of heart attack from walking in snow and wind. At Minneapolis-St. Paul thunderstorm observed, first such occurrence in December since records began 1891.
outh Dakota	3-4					Several	Minor		Blizzard (snow and wind) and glaze	Snowfall 10 to 14 inches in eastern third and 4 to 5 inches in central and west. High winds caused considerable drifting, especially night of 3d. Transportation virtually halted 24 to 36 hours. Most costly effect of storm was slowdown of business and expense of snow removal. Glaze formed in southeast on 1st, in northwest and west-central on 2d, and in northwest and southeast on 3d. At Huron the 11 inch snowfall was 6th heaviest of record. Many motorists stranded at farmhouses and small towns along highways. Most of snow from this storm still on ground as of January 31, with no prospects of immediate thawing.
	3-4									Minor storm also reported in Windham County, Vt.
ownsville, arlboro Coun-y, S. C.	4	5:45 p.m.	1 1/2	100	0	0	55,000	0	Tornado, wind, rain, and electrical	Tornado moving northeastward destroyed 2 homes, broke off utility poles and trees, damaged or destroyed several barns and sheds, and moved a car 50 yards. Tornado developed in instability area ahead of cold front advancing from northwest.
shington, en-ire State	6	9 a.m.-thru day			3		100,000		Wind	Wind speeds increased from very light to 50 to 70 m.p.h., within a few minutes as result of rapidly moving frontal system crossing State and deep low-pressure system in Gulf of Alaska. Strong southerly winds continued for several hours. 2 fishermen drowned in Puget Sound and 1 man killed by falling tree in eastern Washington. Most severe wind damage occurred in Puget Sound area. Powerlines damaged, ferry service disrupted, and waterfront installations damaged by waves and floating logs.
egon, northwestern and orth-central ortions	6	Most of day	185	*130	1		25,000	Negligible	Wind, electrical, and rain	Fairly severe windstorm accompanied in many areas by considerable lightning and moderate to heavy rain, moved in from Pacific reaching Oregon coast during early morning with its center crossing inland at about the mouth of Columbia River. Very cold unstable airmass followed immediately behind front, producing strong winds which in gusts were estimated to reach 65 to 75 m.p.h., along coast and at some inland points. At Eugene, speeds up to 58 m.p.h., recorded; at Portland 32 m.p.h., with gusts up to 42. Numerous power and telephone outages caused as trees were blown down across transmission lines. Man killed on Colton-Estacada highway when wind-felled tree landed on cab of truck he was driving. Wind collapsed hangar at Lebanon, completely demolishing it and small private plane inside. A number of cases of roof and some building damage reported over fairly wide ares. Severe

See footnote at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4 - Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Oregon (Cond't)										lightning accompanied storm at many points in th Willamette Valley. A number of large trees struc in Salem area, but no injuries or deaths from this phenomenon reported. From2 to 4 inches of rain fell during storm in northern coastal range bringing some tributary streams up to flood stag and causing substantial rises in main stem river At Astoria rain sufficient to reactivate a seriou slide that had plagued several city blocks intermittently there for several years. Slides also caused at several other coastal points, and a number of highways temporarily closed by them. Believed that farm losses in this damage negligible. Storm moved eastward.
	6-7									Minor storm reported in Palmer area, Alaska.
Washington, western portion	11-14						$200,000		Rain	Rising temperatures accompanied by 3 to 5 inches of rain in 24 hours on deep snow cover in Cascad caused landslides and snowslides and rivers in King, Pierce, and Snohomish Counties to rise abo flood stage from December 11 to 15. Slides and flash floods in higher elevations on 11th blocke highways for several hours and washed out 200 fe of railroad track near Stampede Pass. Several thousand acres of land in lower valleys of King and Pierce Counties under water. 40 persons evacuated from their homes and 30 head of cattle lost. Landslides delayed rail and highway traf in several localities west of Cascades.
South Dakota, central and eastern portions	12-14				1				Blowing snow, glaze, and sleet	Blowing snow due to light new snow combined with old snow. Highway death evening of 14th north Parker due to poor visibility. Small areas had glaze in west on 13th and 14th. Sleet reported in parts of east-central and northeast on 12th, and central on 13th.
Montana, northeastern portion	12-14	Midnight 12th-afternoon 14th	120	*100		1	1,100		Wind and blowing snow	Blizzard conditions prevailed at times throughou area during storm, which was worst in Sheridan County. Storm moved southeastward.
Columbia Gorge, Washington	14-16		75	*1-5			100,000		Wind and freezing rain	Freezing rain accompanied by strong easterly win estimated at 70 m.p.h., through narrow passage Columbia Gorge in Cascades damaged power and communication lines, trees, and some buildings on both Oregon and Washington sides of Columbia Riv from Cascades to Portland and Vancouver.
Oregon, western portion	14-18			*80-100	2	75			Wind, freezing rain, and snow	Very steep pressure gradient between a low off California coast and high ridge of cold contine Arctic air east of Cascades caused very strong easterly winds over all of Oregon coast and inla to Cascades in northern portion. Large number trees blown over in Portland area, several of th landing on houses and a greater number falling across power and telephone lines. Service interruptions numberous and widespread and lasted fr 1 to several hours. Damage to roofs, outdoor signs, and windows. At a Portland moorage, 3 f ing boats torn loose and driven on shore. Gener damage from this storm not separated from that an even heavier windstorm a week later. Cold co tinental Artic air pushed through Columbia Gorg and fanned out into Willamette and other tribut valleys, and normal marine air moving in from Pacific was forced to ride up over this much co er mass on surface. Precipitation condensing o of upper air and falling through colder levels greatly cooled and froze immediately upon conta with streets, trees, exposed metal, power lines and etc. This condition persisted in Portland area from 15th until morning of 19th and in som sections of Columbia Gorge through most of 20th It also extended considerable distance inland along Columbia River and in north-central porti of State. Thickness of ice built up not genera great, but caused shorting and burning out of s transformers with resulting interruptions to po service. Near Redmond 2 persons killed when th car went out of control on icy highway and cras Many other accidents, both in traffic and from individuals slipping on ice, that caused injuri requiring hospitalization and doing extensive damage to cars and other property involved. Ici generally did not reach upper Willamette Valley until night of 17th. On 18th most of freezing rain turned to snow. Damage from icing very roughly estimated at $50,000.
Vermont and western Massachusetts	15	Afternoon-evening			1	2			Snow and ice	Snowstorm produced icy highways which caused deat to 1 man, touched off scores of minor mishaps, a snarled traffic throughout area.
Juneau area, Alaska	17-20		30	*20			14,000		Wind and rain	One of strongest Taku winds (generated by strong gradient flow) to develop for several years. Gus

See footnote at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Alaska (Con't)										estimated, unofficially, at 80 m.p.h. Most extensive damage to powerlines and utilities. Considerable structural damage, particularly broken windows. Situation aggravated considerably by icy pavements. Damage in Douglas $12,000; in Juneau $2,000.
	18									Minor storm reported in Jasper County, Texas.
Washington	18-23					2			Wind, rain, and snow	Melting snow and heavy rain caused snowslides in mountains and landslides on lower elevations of west, damaging property and delaying rail and highway travel. Many small streams above flood stage. Chehalis River was only major stream in west above flood stage. Flood water from small streams damaged a number of residences and other property. Wind speeds of 50 to 70 m.p.h., over State on 22d, with gusts to 100 m.p.h., at Stampede Pass. Rapid melting of snow in east on 21st and 22d by heavy rain and chinook wind resulted in serious soil erosion, flooding many basements and damaging highways where small streams overflowed. 2 persons injured when high wind wrecked building in east.
California, northern and central portions	18-26				66	3,763			Rain, wind, and flood	One of worst storms experienced in California. An intense Low in Gulf of Alaska-North Pacific area on 18th with high pressure extending in an arc from Aleutian Chain over Alaska into Canada caused a strong southwesterly flow of warm moist air from the Pacific, with a procession of storms moving eastward over State. This condition persisted through 26th when High near Aleutians moved eastward causing northerly flow of cooler air over State behind the last storm front of series, bringing end to heavy continuous rains. Record precipitation in central and north with much above-normal temperatures causing melting of snow pack to high elevations, resulted in worst flooding of record in most areas. An explanation of meteorological causes of storm will be carried in December 1955 Monthly Weather Review. First heavy rain and gale winds of storm occurred on 18th as far south as Merced and Salinas. Evening of 18th winds reached a peak gust of 63 m.p.h., at San Francisco Airport, and fastest miles of 52 m.p.h., at Sacramento and 39 m.p.h., at Red Bluff. High winds and heavy rain continued on 19th, causing extensive damage to buildings, trees, and powerlines. Greatest wind damage experienced in San Francisco and Sacramento areas in this first windstorm of the series, but high winds occurring locally throughout the storm period, generally peaking again on 22d, 23d, and 26th, caused extensive damage. Damage to insured property by wind, aggravated by continuous rains, in north and central was estimated by General Adjustment Bureau at near $2,750,000. High winds also reported in Owens Valley on the 23d where several power poles blown over and roofs damaged. Rivers, swollen by the heavy rains and melting snow, rose to record heights in northern and central California from the 21st through 24th with resulting floods dwarfing wind damages caused earlier in storm. Severe flooding almost submerged and destroyed whole towns. Bridges, railroads, communication lines, roads, farm property, and crops severely damaged. Only outside contact with many localities was by radio. It will be some time before a monetary value can be placed on the December storm damage but it is expected to be well above $100,000,000. Cost of operation to American Red Cross will be in excess of $8,000,000 for assistance to over 11,000 families, and damage to highways and roads in California alone estimated at $31,416,000 by Assistant State Highway Engineer. (See the "General Summary of River and Flood Conditions" in this publication for additional information; also California Climatological Data.)
Oregon, entire State	18-27				15	Many	Over $10,000,000	$4,500,000	Rain, wind, and flood	Heavy rainstorms that moved across Oregon beginning on 18th and continuing through 27th stemmed from low pressure area covering most of Pacific Northwest with trough line hovering near coast. Huge masses of warm, moist air moved inland both by natural cyclonic circulation and by chain of recurring storm waves that extended across Pacific. These air masses were lifted by Coastal and Cascade Mountain ranges and by convergence in upper-air circulation, resulting in extremely heavy precipitation. On 21st and 22d one of principal storm centers moved inland and winds at their peaks were of destructive proportions in practically every area of State. Excessive rainfall and high winds of this period together produced one of most severe storm disasters to occur in Oregon in recent years.

See footnote at end of table.

Table 4—Continued

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Character of storm	Remarks
					Killed	Injured	Property (exclusive of crops)	Crops		
Oregon (Con't)										Main features responsible for loss of life and more serious effects on State's economy were floods, slides, and high winds. During first 4 days of this storm, precipitation over western Oregon and in some mountain areas of eastern portion ranged between 5 and 13 inches with 24-hour falls of 4 inches or more at many points. Streams were already high, all natural storage such as pools, hollows, etc., were full, and the ground was saturated from previous precipitation. On Umpqua, Rogue, Coquille, Long Tom, Tualatin, Nehalem, Clackamas, and several other western rivers crests higher than any previous recorded stage were observed. The result was one of Oregon's most damaging floods from standpoint of loss and destruction of property. Total loss from this flood can never be fully established. Known loss of 6 lives in Oregon attributed directly to floods, which probably were contributary cause of several other deaths. Rough preliminary estimate places property damage at over $10,000,000. In Portland's west hills between 12 and 15 homes suffered major damage as hillside above slid down on them or ground beneath began sliding and carried them along. At least 2 were practically total loss. Damages here will be between $50,000 and $75,000. In addition, a number of streets were closed, either by slides across them or they themselves sliding out. Their clearing and repair cost the city of Portland approximately $50,000. In Astoria, semi-dormant slide reactivated, necessitating evacuation of 6 or 8 homes and doing considerable structural damage to some of them, as well as demolishing considerable section of street Slide a mile west of Remote in southwestern Oregon demolished farm home, killing 5 members of the family and injuring 3 others. Dozens of highways, including practically every major highway in western Oregon, closed at one or more points by slides for periods ranging from a few hours to a week or longer. Railroads also suffered heavily with damage to railway companies alone from slides estimated in excess of $1,000,000. Water mains in several cities including Portland and Astoria, as well as aqueducts leading from mountain storage reservoirs to cities, broken or knocked out of line. Total damage from slides apparently will exceed $1,500,000. Heavy winds, which extended over practically entire State on 21st-22d, were most damaging of year. At North Bend gusts up to 90 m.p.h., observed, with sustained winds of 70. At The Dalles gusts estimated at 80 m.p.h., and at Dallesport Airport just across river sustained winds of 66 m.p.h., recorded. At Pendleton gusts up to 69 m.p.h., with sustained winds of 55 observed. Reports of 55 to 65 m.p.h., winds with gusts considerably higher common to much of State. 4 deaths attributed more or less directly to wind. Damage in dollars and cents caused to homes, some industrial buildings, public utilities, railways, etc., caused by this storm are in most cases impossible to separate from that resulting from quite serious storm just a week before, larger portion due to later storm. Conservative estimate places wind damage from the 2 storms at between $2,000,000 and $2,500,000. For additional information see the article "General Summary of River anc Flood Conditions" in this publication and the "Weather Summary" and precipitation tabulations in the Oregon Climatological Data.
Hawaiian Islands, central and southeastern portions	19-20				5		$50,000	$25,000	Rain, wind, and electrical	"Kona" type rain-and windstorm. Heaviest damage occurred on Island of Maui. Additional loss of $25,000 in fields due to washing and erosion. One-half of property damage caused by wind, the other half by floods. 4 persons killed when airplane crashed into mountain; 1 other person electrocuted by "live" wire. Storm moved southeastward.
Montana, western portion	22-23	Afternoon 22d-night 23d	300	*125			40,000	225,000	Wind	While storm covered all western Montana, damage occurred in local areas. Most severe damage and highest winds were experienced in Kalispell area. Crop loss was blown over timber. Storm generally moved eastward.
Idaho	22-23				1		25,000		Wind	Strong winds associated with passage of vigorous cold front. Fatality occurred when woman pinned beneath falling tree near Coeur d'Alene. Falling trees also did extensive damage on 22d to buildings and power and communications facilities in several northern Idaho communities. Winds of 60 m.p.h., or more reported at Moscow, Sandpoint, and Coeur d'Alene. More than $15,000 damage to planes and hangers at Sandpoint Airport. On 22d small barn overturned near Nampa and far to east i

See footnote at end of table.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

Table 4—Continued

December 1955

Place	Date	Time	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Character of storm	Remarks
Idaho (Con't)										Franklin County, roofs of several buildings shattered and falling trees broke power and communication lines. Later that night and early on 23d winds reached gale force in south-central, overturning and wrecking an airplane at Joslin Field and blowing down a 65-foot section of fence around baseball park at Twin Falls. From Twin Falls to Burley numerous trees uprooted, lines broken, buildings damaged, and stacked hay scattered. Peak gust at Burley Airport 71 m.p.h. Boise recorded lowest sea-level pressure in history of station on 23d -- 28.97 inches.
Colorado Springs Colo.-Cheyenne, Wyo., area	22-24	P.m., 22d-a.m., 24th				7	$500,000		Wind	Gusts above 70 m.p.h., common in area from Colorado Spring northward to Cheyenne. Trucks and cars blown off dust-clogged highways, but no serious injuries reported. Strong wind also did heavy damage to buildings, signs, telephone and powerlines, and trees. Strong winds, moving eastward with gusts up to 100 m.p.h., prevailed in Pikes Peak area on afternoon of December 23, continuing through midnight to 24th. At least 7 persons injured in various ways because of wind, but not seriously. At Fort Carson, 25 trailers in camp blown over and a concrete-block building on Post smashed by wind.
Boulder, Colo.	22-24	9 p.m., 22d-noon 24th				2	10,000		Wind	Winds of hurricane force, moving eastward, did damage estimated at $10,000 to television antennas, roof shingles, windows, doors, sheds, chimneys, awnings, trees, and powerlines. 2 persons were injured in a 2-car collision, which was wind caused. At Rocky Flats Atomic Plant south of Boulder, a peak gust of 98 m.p.h., was recorded with an average of 67 m.p.h.
	22-24									Minor storm also reported in Longmont-Lafayette area, Colo.
Rapid City and northern Black Hills, S. Dak.	23	12:30 p.m.-midnight					11,500		Chinook wind	Gusts measured at 71 m.p.h., overturned airplane, blew off several roofs, and shattered a few plate-glass windows.
	23									Minor storm also reported at Ft. Morgan, Colo.
Ft. Collins, Colo.	23-24	Night 23d-a.m., 24th					100,000		Wind	Strong winds, moving eastward, with gusts to 104 m.p.h., highest on record, caused duststorms, blew off roofs and porches, overturned house trailers, ripped Christmas decorations, uprooted powerline poles, and disrupted television performance.
	23-24									Minor storm also reported in Yellowstone Park, Wyo.
	23-31									Minor storms (glaze and sleet) reported in South Dakota.
Cordova area, Alaska	28-30		100	*50					Rain and wind	Strong gradient windstorm accompanied by very heavy rain. The 14.13 inches of rain on December 29, if verified, will be greatest 24-hour amount recorded for any station in Territory. Heavy wet snow, supplemented by heavy rain caused some buildings to collapse. City dam overflowed, flooding several downtown business houses. Wind speed at KLAM Radio Station peaked at 78 m.p.h. Windows broken all over town and roofs damaged.
DELAYED REPORTS										
	Nov. 8									Minor storm reported at Haines (upper Lynn Canal), Alaska.
Juneau-Douglas area, Alaska	22-23	Noon 22d-noon 23d	30	*20			$14,000		Wind	In Douglas area damage consisted of roofs blown off and small buildings blown down; total $12,000. In Juneau damage confined chiefly to broken plate-glass windows and some roof damage; total $2,000. Winds of similar or even greater strength may have developed down other river canyons but were not recorded because of sparseness of human habitation in affected areas and the absence of structural property susceptible to wind damage.

* Miles instead of yards.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

DECEMBER 1955

WEST COAST FLOODS OF DECEMBER 1955

Disastrous floods occurred on the West Coast during the last half of the month from the heavy continuous rains that were accompanied by snow melt during the period from the 15th to the 28th. Record to near-record floods resulted in streams in northern and central California, western Nevada, southwestern Oregon and southwestern Idaho. The floods in the Sacramento and San Joaquin Basins were about equal to the previous high floods of November and December 1950. Two major levee breaks on the Feather River flooded Yuba City to a depth of 6 to 8 feet, inundating the "Peach Bowl" of California. Record high stages occurred on several tributaries to the Middle and Lower Willamette River and a few tributaries of the Rogue River in Oregon. Maximum floods of record were reported on Weiser and Payette Rivers in Idaho. In western Nevada, record floods occurred on the Carson River and near-record floods on the Truckee River. The only serious flooding in Washington was on the Chehalis River. A comparison of this flood with previous floods of record is given in table 5a. According to the American Red Cross, 74 lives were lost--66 in California and 8 in Oregon.

The floods which caused such heavy destruction and loss of life were due to a well-developed storm system which affected most of the West Coast. Other notable West Coast floods have been due to similar weather patterns. A discussion of the storms causing the heavy precipitation may be found in the December issue of Monthly Weather Review.

Light precipitation began spreading over the West Coast from Washington and Idaho southwestward through southwestern Oregon and northern and central California on the 15th, becoming heavy on the 19th and continuing through the 28th with varying intensities.

Total precipitation during the period December 15-28 was excessively heavy in north-central California with several stations reporting amounts over 30 inches. High amounts reported were: Cazadero, Calif., 39.06 inches; Deer Creek, Calif., 37.46 inches; Blue Canyon, Calif., 35.82 inches; and Bullards Bar., Calif., 32.55 inches. Maximum 24-hour amounts of 9.31 inches and 12.72 inches were reported at Blue Canyon and Hobergs, respectively, between the 21st and 22d. Precipitation amounts in southwestern Oregon averaged around 10 inches. Table 5b presents daily and storm totals of precipitation at representative points, and the storm total in percent of the annual total.

Conditions were favorable for heavy runoff as precipitation during the first half of December was predominantly abundant, many stations receiving more than one-half their normal December rainfall by the 14th.

Great Basin.--Record-breaking floods occurred in the Sierra Nevada region on the 23d from the moderate to heavy rains between the 19th and 24th. The heavy rains extended to high altitudes and melted most of the existing snowpack, causing excessive runoff. The Truckee River at Reno, Nev., reached a crest of 13.63 feet on the 23d, which was 0.2 foot below the previous record stage of 13.83 feet recorded in the flood of November 1950. The Carson River near Carson City, Nev., reached a record crest of 14.4 feet on the 23d, exceeding the previous maximum stage of 11.4 feet (November 1950) by 3 feet. The East Fork of the Carson River near Gardnerville, Nev., reached a record stage of 11.81 feet, exceeding the previous maximum stag of 9.66 feet by 2.15 feet. Crests in the Susa and Walker River Basins were generally of the sam magnitude as in the 1950 flood.

Severe damage was reported to highways, bridges and irrigation systems. Many communities wer isolated. Extensive damage was reported in Reno but it was not nearly as great as in the 195 flood, due to advance warnings and emergenc measures taken. High water made it necessary t evacuate the Weather Bureau Office on the evenin of the 23d.

Locally heavy rains on December 23 in norther Utah, extending to high elevations, caused sharp increase in the flow on all streams in th basin. Some flooding was reported on the lesse tributaries of the Weber River. Several thousan acres of farmland in Morgan County were floode when creeks overflowed their banks. County road along the south side of the Weber River wer covered with 2 feet of water in places. One concrete bridge was washed out near Mountain Green stranding five families. A temporary 18-inc culvert on a detour at Pine View Dam in Ogde Canyon was not able to carry the swollen waters o Wheeler Creek, and the temporary road was washe out, isolating Ogden Valley for about 8 hours The maximum discharge recorded at Gateway, firs above the mouth of Weber Canyon, was 3,060 cfs nearly twice the previous record of 1,680 cfs i 1921. Discharge on the Bear River and othe streams increased sharply.

Precipitation was moderate to heavy over norther Utah with 1.5 inches at Logan and nearly 1 inc at Pine View Dam and Morgan. Some unofficial estimates of near 3 inches were reported. The rai extended to upper levels, adding snow melt to run off. Damage was primarily to farmlands and count highways.

Central Valleys of California.--In the San Joaquin Basin flooding occurred in all streams risin in the Sierra Nevada Mountains. Some of the highest stream flows of record were reported, wit peak flows and total runoff exceeding the hea floods of 1950.

In the Tulare Lake Basin, in the southern portic of the San Joaquin Valley, the four major streams the Kern, Tule, Kaweah and Kings, had record near record-breaking floods. The peak flow of th Kern near Kernville on the 23d was 27,600 cfs con pared with 27,000 cfs in 1950. Almost the enti flow originated on the North Fork of the river rainfall over the South Fork was comparativel light. Damage was confined to property along th river channel and was not as severe as in 1950 flooding downstream was controlled by Isabel Dam. The Tule River reached a peak flow of 26,0 cfs on the 23d, compared to 28,000 cfs in 195 causing considerable damage. The Kaweah and S Johns Rivers, east of Visalia, broke weirs a levee systems, washed out bridges and roads, a created a river 1,000 feet wider than it had ev been. These rivers flooded parts of Visalia to depth of 4 feet and formed a lake 10 to 15 mil long to the east of the city. The peak flow the Kaweah River, near Three Rivers, on the 2 was 74,400 cfs compared to 52,000 cfs in Novemb 1950. Kings River above North Fork reached a pe flow of 80,000 cfs compared to 44,000 cfs in 195

Along the main stem of the San Joaquin, Millert Lake reached a peak flow of 95,000 cfs compared 75,000 cfs in 1950. Merced River had an inflow

102,000 cfs at the Exchequer Reservoir compared to 88,000 in 1950, filling the reservoir to almost full capacity. Smaller streams and creeks flowing out of the foothills above the Merced River flooded lowland areas, overflowing irrigation systems, breaking levees and undercutting roads while storm drains in cities and towns failed to cope with the rainfall and caused additional flooding. The Chowchilla River and Berenda and Ash Sloughs overflowed into lowlands of Chowchilla, flooding U. S. Highway 99 and its adjacent business district to a depth of 4 to 5 feet, stalling many cars and several large buses. Black Rascal Creek overflowed its banks flooding the northeast part of Merced. Considerable agricultural land was inundated with little damage to the land, but some unpicked cotton was destroyed and livestock was lost.

In the lower San Joaquin Valley, major flooding occurred near the confluence of the Cosumnes and Mokelumne Rivers between Franklin and Bensons Ferry. The crest at Bensons Ferry was 1.5 feet above the previous maximum stage. A large area of agricultural land and some homes were flooded. Inadequate drainage capacity of Mormon Slough and Calaveras River caused the northeastern part of Stockton to be flooded. Major overflow occurred over the lowlands adjacent to the mouth of the Stanislaus and Tuolumne Rivers. In the delta region, where a combination of high tides, gusty winds and heavy inflow created an extremely dangerous situation for approximately one week, four major island tracts were completely flooded and several others partially inundated. During the historic flood of 1862, the peak mean daily flow of the Don Pedro Reservoir on the Tuolumne was 77,000 cfs. During this flood, it was 83,000 cfs at the time that the upstream reservoirs at Hetch Hetchy, Lake Eleanor and Cherry Valley were still filling.

In the Sacramento Valley, the by-passes were rapidly filled to capacity due to the heavy inflow below Shasta Dam into the Sacramento, Feather and Yuba Rivers. Above Shasta Dam, flood flows were impounded from the upper Sacramento and its tributaries, reducing flood stages along the main stem as far downstream as the confluence with the Feather River. The lower sections of Oroville were inundated from backwater of the Feather River and considerable flooding of agricultural land occurred along the east bank of the river from Hamilton Bend to Honcut Creek. A major failure occurred about noon on the 23d in the east levee of the Feather River near Nicolaus, flooding lands in Reclamation District No. 1001. All residents of Nicolaus were evacuated. Hundreds of head of livestock were drowned, but there was no loss of human life. Another major tragedy occurred around midnight on the 23d when the west levee of the Feather River south of Yuba City failed. Almost the entire city was inundated to depths of 6 to 8 feet. Marysville, at the junction of the Feather and Yuba Rivers, was completely surrounded by flood waters. Evacuation of the city was ordered at the time of the levee break. The stage reading at Marysville was 6 feet above the previous high stage of 76.2 feet established in 1937. The water receded from most of Yuba City within a short period, but flooded the area to the south including some of the Nation's most productive lands and much of the famous Peach Bowl of Sutter County. Destruction in the County was heavy. Major flooding also occurred near the confluence of the Bear and Feather Rivers and to the north of the Bear River where a very large area of lowland was flooded, mostly due to backwater from the Feather.

Coastal Sections of California and Oregon.--In southern California, flooding occurred from the 24th through the 26th near the mouths of a series of foothill creeks at the base of the Santa Ynez Mountains between the city of Santa Barbara, Calif., and Gaviota Pass (Santa Barbara County). Runoff was rapid as the watersheds of the creeks had been denuded by the forest fire of September 1955.

Total rainfall for the storm from the 23d through the 26th ranged from 3.25 inches to nearly 11 inches in Santa Barbara County. Rainfall was considerably less to the south and southeast and totalled only 0.44 inch at Los Angeles Airport. Damage was largely confined to highways blocked by slides and flooded homes. Work on clearing the channel had been completed prior to the storm which helped considerably in keeping the damage from being greater.

Rainfall over the Salinas River Basin in California during the period from the 22d to the 24th ranged from 3.83 inches at Soledad to 8.95 inches at Arroyo Seco. Record high flows were recorded on some of the tributaries, but along the main stem at Spreckels, Calif., flooding was minor. Construction work on a dam on the Nacimiento River (principal tributary) was washed away due to the heavy rains in the Santa Lucia Coastal Mountain Range. A few persons were evacuated in the southern portion of the Valley. Some local lowland flooding occurred in agricultural areas south of Salinas, Calif.

Record flooding occurred on the Pajaro River at Chittenden and Watsonville, Calif., on the 24th. The crest stage at Chittenden, 32.65 feet, far surpassed the previous high of 26.2 feet on April 5, 1941. The crest at Watsonville, 33.3 feet, was the highest since the construction of the levee works. Flood flows in Pajaro River and its tributaries, Correlitos and Salsipuedes Creeks, overtopped and breached levees at a number of locations, flooding considerable acreage of agricultural land and portions of commercial areas in the city of Watsonville. This record flooding was due to rainfall ranging from 6.24 inches at Watsonville to 7.97 inches at Chittenden Pass during the period from the 22d to the 24th. Hundreds of persons were evacuated when the levee threatened at Watsonville. Upstream from Watsonville, lowland flooding and landslides cut main highways. In north San Benito County, several hundred farm homes were evacuated.

Extremely heavy precipitation ranging from 8.91 inches at Santa Cruz to 21.56 inches at McKenzie, Calif., during the 3-day period (22d-24th) over the San Lorenzo Basin caused a disastrous flood at Santa Cruz. The heaviest precipitation during this period occurred during the night of 22d-23d. A crest of 22.5 feet occurred at Big Trees, upstream from Santa Cruz, early in the morning of the 23d. This crest was 1.4 feet higher than the crest of 21.1 feet of February 1940. The entire business district of the city of Vera Cruz and adjacent residential areas were inundated to depths of over 4 feet. Five deaths from drowning were reported. Several million dollars damage resulted to property in the city. Some flooding and damage occurred in nearby areas of Soquel and Capitola due to the overflowing of Soquel Creek.

Extensive localized flooding of small creeks occurred in the San Francisco Bay area, due to torrential rains and high tides during the period from the 22d to the 24th. There was considerable local flooding and appreciable damage in all of the Bay area counties.

Record flooding occurred on the Russian River at Hopland and Guerneville, Calif., during the period from the 19th to the 25th. There were two crests, the first crests were 4 to 8 feet lower and were comparable to the flood of January 1954. The second crests, 3 days later, exceeded the record high stages established at Hopland in January 1943, and at Guerneville in February 1940. At Healdsburg, the crest was about 4 feet below the record crest of 1940.

Moderate flooding occurred on the Napa River at Napa, Calif., from the heavy rains of December 21-23. There was considerable lowland flooding and high water in the city of Napa from runoff and high tides.

The greatest floods of record occurred in northern California on the Smith, Klamath, and Eel Rivers and on Redwood Creek during the period from the 19th to the 24th. A peak flow of 500,000 cfs occurred in the Eel River at Scotia, Calif., (drainage area 3070 sq. mi.) compared to 345,000 cfs in December 1937. The small towns of Weatt and Pepperwood were almost completely demolished, and Miranda and other places on the Eel severely damaged. The hamlet of Klamath Glen was also destroyed and the small town of Klamath on the Klamath River was almost destroyed. It was estimated that over 2,000 were made homeless, and at least 500 homes were completely destroyed.

Major flooding occurred in the Rogue, Umpqua and Coquille River Basins in southwestern Oregon during the period December 21-23, and again in the Umpqua and Coquille Basins on the 25th and 26th. In the Rogue Basin, the floods were the highest since 1890, and in the Umpqua since 1861. Flood damages were high as millions of dollars of property had been constructed during the last 10 years in river and creek bottoms. Considerable damage was done by slides and erosion.

Columbia Basin.--Warm temperatures, rain and melting snow in the upper Columbia Basin caused the Coeur d'Alene River to rise rapidly on the 21st and 22d to flood stage at Cataldo, Idaho, on the 23d. At Phillipsburg, in western Montana, heavy runoff from melting snow caused the water to back up on the state highway to a depth of about 30 inches for a distance of 100 yards. No damage resulted.

In the Snake River Basin, rains falling on a heavy snow pack resulted in floods on the 21st on several streams in the Grangeville-Lewiston, Idaho, area. Much damage resulted to stocks in basements of stores at Grangeville from the overflowing of Three Mile and Dry Creeks. Several bridges were reported washed out.

Unseasonable floods occurred on the Payette, Weiser, Little Salmon and Middle Fork of the Boise River, and on two or three smaller streams in southwestern Idaho on the 22d. Flooding also occurred on a portion of the Big Lost River and on one of its main tributaries, Antelope Creek. Preliminary flow determinations by the U. S. Geological Survey on the Payette River below Black Canyon Dam (Emmett 5 NE) indicate a peak flow of 22,800 cfs, sustained from about midnight December 22, to 7 a.m. on the 23d. This equals the record flow of May 1, 1938. Preliminary figures for the Weiser River below Crane Cree show a peak discharge of 19,900 cfs, the highes on record. There is no gaging station on th Little Salmon, but indications are that near record flow occurred there, too. On Moore Cree and its tributaries, such as Grimes and Clea Creeks, and along the Middle Fork of the Bois River, flooding also occurred with much damag to roads. Peak flow on Moore Creek was reporte as 5,530 cfs and at Twin Springs, on the Middl Fork of the Boise, 10,200 cfs. Both are near record discharges. Squaw Creek, which emptie into the Black Canyon Reservoir on the Payette experienced "the worst flood of the last quarte century". Water rose 6 inches above the Ol bridge, inundating several hundred yards of highway and extensive areas of farmland which suffere considerable damage from erosion. Flooding o farms and damage to roads and bridges was extensive along Antelope Creek at the junction wit the Big Lost River. A flash flood on Reynold Creek in southwestern Idaho on the 23d washe out a section of the Marsing-Murphy road an covered several farms with mud and debris. Th heaviest damages occurred on the Weiser and Littl Salmon Rivers. At Midvale, Idaho, on the Weise River, some 12 blocks of streets were washe out and the town's water system was knocked out Highways were damaged along the Weiser and Littl Salmon Rivers, and damage along the Middle For of the Boise River and on some of the smalle streams in the Boise Basin appears to have bee principally to roads. Along the Payette River where the record discharge of past years wa equalled, dikes in the vicinity of Emmett, Idah averted serious losses, although a bridge or tw were washed out and some farmlands inundate There was considerable loss of livestock ar chickens along Antelope Creek, and also mu damage to machinery, automobiles, corrals, fences outbuildings, roads and bridges.

There was considerable flooding in the Willamette Basin at and below the confluence of th McKenzie and the Willamette Rivers. Flooding wa most severe in the smaller rivers and creeks with crest stages higher than in any flood sin 1933. The highest stage of record was recorde on the Marys River near Philomath, Ore. In th middle and Upper Willamette Valley, crests wer 0.5 foot to 1.5 feet lower than in January 195

The area around Oakridge, Ore., on the Midd Fork, was especially hard hit with several highw bridges and several hundred feet of highway wash out. One drowning was reported and several hom in that area were evacuated. Several homes the Springfield-Coburg-Eugene, Ore., area we flooded. In the lower Willamette Basin the was considerable property damage along the Tu latin, the lower Clackamas and Abernathy Cree Johnson Creek, in the suburbs of East Portlan flooded in November and December. The only floo ing on the main stem of the Columbia was at Va couver, Wash., where flood stage was exceeded nearly 5 feet. There was also record or nea record high water in many of the coastal stream namely the Nehalem, Wilson, Trask and Nestuc Rivers.

Grays Harbor and Puget Sound Drainage.--T only serious flooding from the heavy rains the 21st and 22d occurred on the Chehalis Riv at Grand Mound, Wash., where it peaked with 1.4 feet of the record stage of December 193 onditions were favorable for heavy runoff as eavy rains occurred over the drainage area on he 11th. During that storm the crest on the hehalis was 0.5 foot lower than on the 22d. The Green River at Auburn, Wash., crested at a record high stage of 67.8 feet, 1.9 feet higher than the record flood of April 1938.

OTHER FLOODS

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The Mississippi River roze over earlier than usual and much earlier han last season. In the reach between St. Paul, inn., and Prairie due Chien, Wis., navigation as officially closed on December 3. Ice thickess increased on the pools during the month and as reported 16 inches thick on Lake Pepin on the 1st. The mean stage of the Mississippi at St. aul for the month was 2.3 feet, the third lowest ince 1934.

Snow cover over the Upper Mississippi was heavier han normal on the 31st. Snow depths of 10 to 0 inches covered the northeastern half of Minneota, with the heaviest snow over the Arrowhead. now cover this year compared with snow cover of ecember 31, 1951, except over the Arrowhead and pper St. Croix River, where it was heavier. At he end of the month there was 10 inches of snow n the ground at Minneapolis, Minn., which was he second greatest snow depth since records bean in 1891 (11 inches).

Missouri Basin.--An ice jam occurred on December 1 on the Beaverhead River at its confluence with he Jefferson River, flooding the town of Twin ridges, Mont. Damage was mostly to basements nd floors of homes.

Divide Creek, a tributary of the Big Hole River, verflowed near Divide, Mont., on the 22d, causing onsiderable damage in a small local area. This verflow was due to rapid snow melt, rain and ce-choked culverts. Dwellings, farm machinery nd household goods were damaged.

A flash flood developed on the Shields River ortheast of Livingston, Mont., during the night f the 22d causing the loss of about 1,000 sheep. hinook conditions during the period December 0-23 sent the temperature into the 40's and 50's, ausing rapid melting of the heavy snows of a few ays earlier.

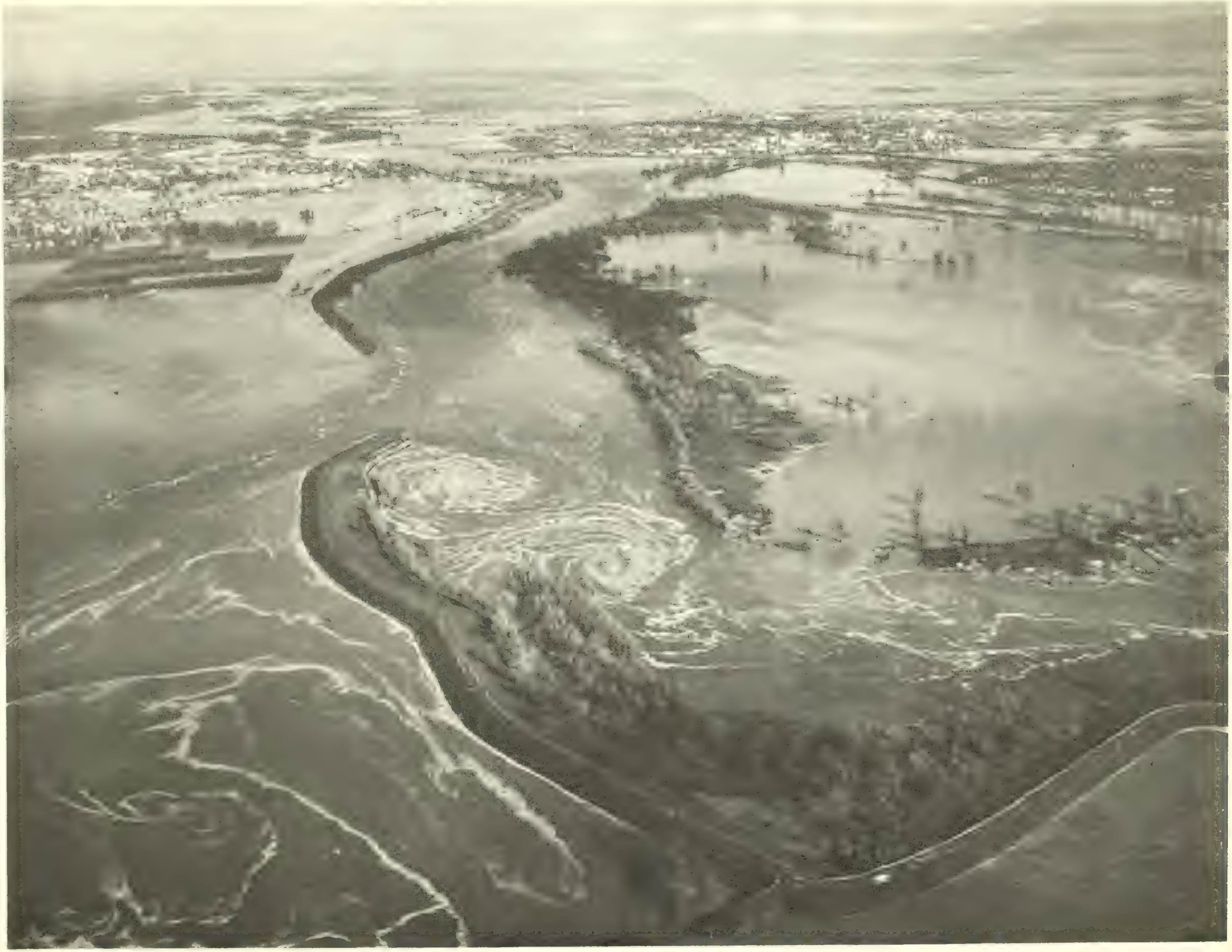
On the Yellowstone River at Laurel, Mont., an ice jam occurred on December 23 near the highway bridge. About 15 acres of adjacent farmland were flooded. The water rose to a height of 18 inches, damaging one farm house and its furnishings, two automobiles and some farm equipment.

Very cold weather during the first 3 weeks of December caused ice to become unusually thick in the Missouri Basin above Sioux City, Iowa. The ice was 18.5 inches thick at Huron, S. Dak., on December 26, which usually isn't attained until about the middle or last half of January.

Heavy snow accumulations occurred from the 2d to the 4th over most of the Dakotas, the northern portion of Nebraska, and in the extreme northwest corner of Iowa. Snow depths from this storm varied from 4 to 8 inches in the western half of South Dakota to 8 to 15 inches in the eastern half of the state. The Bismarck and Jamestown areas of North Dakota reported 6 to 8 inches. Abnormally cold weather kept the snow cover intact for the first 3 weeks of December. Moderating temperatures during the last 10 days of December melted most of the snow in western South Dakota. Three to 8 inches of snow cover remained over much of east-central and northeast sections of South Dakota at the end of the month.

Record low stages continued throughout the month on the Marais des Cygnes River at Ottawa, Kans., with readings of 0.49 foot. River stages on the Kansas River continued at nearly constant levels except for minor variations in the lower portion, mostly during the first part of the month.

Ohio Basin.--The Elk River at Fayetteville, Tenn., rose to a crest of 662.1 feet, 3.1 feet above flood stage, on the 4th. This rise was due to heavy rains during the night of the 3d and 4th. The heavy rains in this storm were confined largely to the Elk River drainage above Fayetteville. One station in the drainage area reported more than 5 inches on the morning of the 4th.



[illegible] of December 25, 1955. Yuba City visible in upper left corner. Marysville in

FLOOD STAGE DATA

Table 5

(All dates in December unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM					
Ohio Basin					
Elk: Fayetteville, Tenn.	659	[illegible]	5	662.1	4
PACIFIC SLOPE DRAINAGE					
Monterey Bay					
Salinas: Spreckles (nr), Calif.	23	24	25	24.75	25
Pajaro: Chittenden Pass, Calif.	32	24	24	32.65	24
San Joaquin Basin					
Mokelumne: Benson's Ferry, Calif.	15	23	25	18.0	24
San Joaquin: Vernalis, Calif.	24.5	25	31	27.1	25-26
Lathrop, Calif.	17	26	31	18.8	29
Sacramento Basin					
Yuba: Marysville, Calif.	78	23	24	82.4	24
		26	28	**63.2	27
Feather: Nicolaus, Calif.	50	22	#31	51.6	23
Oroville, Calif.	25	22	22	E25.5	22
		23	23	E27.0	23
Sacramento: Red Bluff, Calif.	23	22	22	23.2	22
Moulton Weir, Calif.	76.8	20	31	82.0	23
Colusa Wir, Calif.	61.8	19	31	68.4	24
Tisdale Weir, Calif.	45.5	7	[illegible]	46.3	8
		19	31	51.0	24
Knights Landing, Calif.	41	23	24	41.3	23
Fremont Weir, Calif.	33.8	20	31	39.8	23
Rio Vista, Calif.	9	23	30	9.6	23
				10.2	26
Miscellaneous Coastal Basins					
Russian: Hopland Largo Station, Calif.	21	19	20	23.1	19
		21	22	27.2	22
Healdsburg, Calif.	19	19	20	21.85	19
		22	23	26.15	23
Guerneville, Calif.	29	19	21	39.15	20
		21	25	47.6	23
Eel: Fernbridge, Calif.	17.5	19	24	27.7	22
Redwood Creek: Orick, Calif.	19	22	23	24.0	22
Klamath: Klamath, Calif.	40	22	23	†49.7	22
Smith: Fort Dick, Calif.	30.5	21	22	37.4	22
Rogue: Eagle Point, Oreg.	9	21	22	11.6	22
Raygold, Oreg.	10.5	21	23	23.8	22
Grants Pass, Oreg.	17	21	23	30.2	22
Umpqua: Winston, Oreg.	26	21	22	31.55	22
		26	26	30.5	26
Roseburg, Oreg.	25	22	22	29.1	22
		26	26	27.8	26
PACIFIC SLOPE DRAINAGE (Cont'd.)					
Columbia Basin					
Coeur d'Alene: Cataldo, Idaho	43	23	24	43.0	23
McKenzie: Coburg, Oreg.	11	21	23	16.3	22
Marys: Philomath, Oreg.	20	21	23	20.9	21
Calapooya: Holley, Oreg.	10.5	21	21	12.7	21
Santiam: Jefferson, Oreg.	13	21	24	21.0	22
South Yamhill: Whiteson, Oreg.	38	21	23	45.3	22
Tualatin: Dilley, Oreg.	12	21	26	14.8	22
Beaverton, Oreg.		21	30	35.9	22
Willamette: Harrisburg, Oreg.	12	21	24	16.3	22
Corvallis, Oreg.	20	22	24	24.8	23
		27	28	21.5	27
Albany, Oreg.	20	21	25	26.7	23
		27	28	22.4	27
Salem, Oreg.	20	22	25	25.6	23
Oregon City, Oreg.	12	22	30	17.3	24
Portland, Oreg.	18	23	27	22.3	25
Columbia: Vancouver, Wash.	15	23	28	19.7	25
GRAYS HARBOR					
Chehalis: Centralia, Wash.	63	12	13	66.7	12
		21	24	68.6	22
Grand Mound, Wash.	12	12	14	16.5	13
		21	24	17.0	22
PUGET SOUND					
Green: Auburn, Wash.	63	12	12	67.8	12
Snoqualmie: Carnation, Wash.	51	12	12	56.9	12
		22	24	52.7	23
Snohomish: Snohomish, Wash.	23	12	13	27.8	12
		22	23	24.8	23

* Provisional
** Although this crest was below established flood stage it caused reflooding of Yuba City area through a levee break.
E Estimated
# Fell below established flood stage about 24th but because of a levee break the Nicolaus area remained flooded through month's end.
† Highest stage reported, crest estimated 51.0 ft.

WEST COAST - COMPARATIVE CRESTS

Table 5a.

River and station	Flood stage	1955 Crest		Previous Maximum of Record	
		Stage	Date	Stage	Date
	Ft.	Ft.		Ft.	
*East Fork, Carson: Gardnerville (nr), Nev.		11.81	23	9.66	11- -50
*Carson: Carson City (nr), Nev.		14.4	23	11.40	11- -50
*Truckee: Reno, Nev.		13.63	23	13.83	11- -50
*Kern: Kernville (nr), Calif.		17.6	23	17.5	11- -50
Salinas: Spreckles (nr), Calif.	23	24.75	25	26.85	1-16-52
Pajaro: Chittenden Pass, Calif.	32	32.65	24	26.2	4- 5-41
*San Lorenzo: Big Trees, Calif.		22.5	22	21.1	2- -40
Mokelumne: Benson's Ferry, Calif.	15	18.0	24	16.4	3-11-43
San Joaquin: Lathrop, Calif.	17	18.8	29	22.5	12-10-50
*Consumnes River: Michigan Bar, Calif.		14.6	23	11.85	11- -50
Yuba: Marysville, Calif.	78	82.4	24	76.2	12-11-37
Feather: Nicolaus, Calif.	50	51.6	23	51.1	2-29-40
Oroville, Calif.	25	E27.0	23	28.2	3-19-07
Sacramento: Red Bluff, Calif.	23	23.2	22	32.2	2-28-40
Colusa Weir, Calif.	61.8	68.4	24	70.0	3- 1-40
Knights Landing, Calif.	41	41.3	23	41.8	2- 8-42
Sacramento, Calif.	29	28.7	23	30.15	11-21-50
Rio Vista, Calif.	9	10.2	26	10.0	3-21-07
Russian: Hopland, Calif.	21	27.2	22	26.1	1-21-43
Healdsburg, Calif.	19	26.15	23	30.0	2-28-40
Guerneville, Calif.	29	47.6	23	46.87	2-28-40
Eel: Fernbridge, Calif.	17.5	27.7	22	25.0	12- 37
Klamath: Klamath, Calif.	40	49.7	22	43.67	1- 53
Rogue: Grants Pass, Ore.	17	30.2	22	23.9	1- 53
*Umpqua: Elkton (nr), Ore.		45.6	22	44.2	10- -50
McKenzie: Coburg, Ore.	11	16.3	22	17.4	12-29-45
Marys: Philomath, Ore.	20	20.9	21	20.7‡	12-15-46
Calapooya: Holley, Ore.	10.5	12.7	21	14.1	12-28-45
Santiam: Jefferson, Ore.	13	21.0	22	23.0	11-21-21
South Yamhill: Whiteson, Ore.	38	45.3	22	43.4	2- -49
Tualatin: Dilley, Ore.	12	14.8	22	13.8	1-17-41
Willamette: Harrisburg, Ore.	12	16.3	22	19.7	12-29-45
Corvallis, Ore.	20	24.8	23	28.2	12-30-45
Oregon City, Ore.	12	17.3	24	21.1ø	2- 5-90
Chehalis: Grand Mound, Wash.	12	17.0	22	18.4	12-29-37

* From U. S. Geological Survey
‡ Flood mark
ø Prior to gage records
E Estimated

PRECIPITATION, inches, December 15-28, 1955

Selected Stations

Table 5b.

STATION	DRAINAGE	ELEVATION (ft.)	DAY														Total	ANNUAL Normal	Percent
			15	16	17	18	19	20	21	22	23	24	25	26	27	28			
NEVADA																			
Carson City	Carson	4675			T		1.01	0.21		2.14	2.47	3.02	0.19	0.25	0.23	0.02	9.54	10.92	[illegible]
Fallon Exp. Station	"	3965			T						.36	.70	.20	T		T	1.26	4.95	21
Virginia City	"	6002			T		.40	.22		.86	1.90	1.60		.15		.04	5.17		
Glenbrook	Truckee	6400				0.09	2.39	.48	0.13	1.47	2.74	2.79	T	.63	.20	.17	11.09	18.10	61
Reno	"	4397		T	.01	.55	.43	T	.01	1.05	2.02	.69		.31	T	T	5.07	6.96	73
Mina	Walker	4350									.70	.86					1.56	3.70	42
Schurz	"	4120								.17	1.87	1.25	T				3.29	5.46	60
Smith	"	4800					.35	1.40	.10	.68	1.56	.15		.12			4.36	7.12	62
Wellington RS	"	4800			T	T	.28		T	.35	2.49	1.27	*	1.00	.04	T	5.43		
CALIFORNIA																			
Buttonwillow	Kern	295									T	T	.13	.02	.05	.01	.21	5.29	4
Middlewater	"	803								.02	.23	1.54	.05	.10	.01		1.95	5.17	38
Glenville	"	3130									1.00	.03	.05	.10	.51		1.69		
Avenal 9 SSE	"	532						.05		.01	.43	1.09	.55	.03	.09		2.25		
Angiola	Kaweah	205		*	.15	.40	.20	.25	.05	.80	.70			*	.35	.15	3.05	7.33	41
Ash Mountain	"	1692					.08	.03	.82	1.67	7.24	1.21	.65	.33	.66	.12	12.81	26.21	49
Orange Cove	"	431					.05	.09		.39	2.09	1.95	1.04	.26	.24		6.11	13.58	45
Five Points 5 SSW	Kings	284									1.25	1.45	.16				2.86		
Grant Grove	"	6580				T	.57	.25	.02	2.39	9.22	4.67	2.98	1.51	.85	.07	22.53	41.60	54
Hanford	"	246					T	.02		.26	1.43	1.50	.55	.04	.05		3.85	8.35	46
Merced Fire Station (2)	Merced	169					.08	.26	.02	.43	2.10	1.73	.03	.97	.25		5.87	11.26	52
So. Entrance Yosemite NP	"	5135			T	.23	2.16	2.08	*	3.77	9.72	6.90	1.35	1.95		1.20	29.36		
Denair	Tuolumne	124					.20	.15	.04	.36	2.06	1.02		.61	.08		4.52	11.09	41
Groveland RS	"	3135			.05		2.23	1.13	.16	2.40	6.30	4.72	.31	.83	2.16		20.29	38.49	53
Lake Eleanor	"	4662			.09	.10	2.40	1.74	.09	3.95	7.72	4.08	1.34	*	2.64		24.15	41.84	58
Oakdale Woodward Dam	Stanislaus	215	T		T	T		.10		.45	1.65	1.14		.10	.55		3.99	13.96	29
San Andreas	Calaveras	1100		.12	.59	.06	1.30	1.58	T	1.40	3.75	3.85	.04	.50	1.10	.05	14.34	28.31	51
Wallace	"	197		T	.26	.06	1.21	.13	.01	1.65	3.25	.74		.86	.07		8.24	18.93	44
Bensons Ferry	Mokelumne	17			.11	.13	.76	.90	T	1.37	1.87	.85		.85	.17	.04	7.05	14.83	47
Electra Power House	"	715		.08	.64	.05	1.14	.47	.09	2.49	4.83	1.45	.07	1.38	.05		12.74	30.59	41
Elliott	"	90		.03	.15	.01	.50	.73	.03	1.29	1.69	1.21		.55	.54	.04	6.77	16.53	41
Adin RS	Pitt	4193			.07	.45	.17	1.14	.08		.63	1.18			.75	.11	4.58		
Burney	"	3127		.10	.28	.78	1.99	1.97	.45	1.89	1.46	.17	.04	1.13	1.23	.27	11.76	25.28	47
Fall River Mills Intake	"	3340		.03	.02	*	1.15	.50		.22	1.09	.06	.02	.96	.55	.17	4.77	18.21	26
Blue Canyon	Feather	5280	.20	.97	1.24	2.32	5.81	2.11	5.19	7.44	5.92	.65	.55	3.02	.21	.19	35.82	53.51	67
Bullards Bar Power House	"	1740		1.05	1.50	.70	5.22	2.77	1.08	9.97	6.32	.80	.11	2.63	.40	T	32.55	69.74	47
Colfax	"	2418		.49	.73	.45	2.50	3.02	.58	5.20	3.14	1.05	.37	2.70	.13		20.36	46.36	44
Deer Creek	"	3700		1.03	1.40	1.25	6.54	3.25	1.85	8.78	8.05	1.05	.20	3.67	.25	.14	37.46	66.39	56
Antioch 1 E	San Joaquin	46		.03	.21	.19	1.23	.29	.02	.40	2.14	.09		.87	.09		5.56	12.53	44
Auberry	"	1985	.04				.85	.80		1.47	4.25	.75	1.50	2.00	.90		12.56	24.26	52
Castle Rock	"	624					.37	.36	.03	.12	1.70	1.33		.17	.10		4.18		
Cathay Bull Run Ranch	"	1425					.48	.36		1.50	4.76	3.09	.37	.43	.77		11.76		
Fresno (WB Airport)	"	331	T			.08	.05	.08	T	.94	1.72	.97	.31	.26	.19		4.60	9.31	49
Huntington Lake	"	7020			.01	T	.57	.72		3.51	7.28	5.41	1.40	1.18	.77	.08	20.93	30.40	
Folsom	American	252		.14	.20	.13	1.49	1.28	.02	1.53	1.64	1.21	.01	1.03	.32	.08	9.08	24.87	37
Foresthill RS	"	3200		.37	.88	.94	2.84	2.64	.24	7.10	4.35	2.80	.48	1.44	1.50	.43	26.01	51.27	49
Garden Valley 2 S	"	1890		.32	.37	.44	1.50	1.61	.58	3.22	2.28	2.57	.18	.99	1.38	.22	15.66		44
Brooks Farnham Ranch	Sacramento	350		.26	.22	.11	2.90	1 50	.13	1.55	1.87	.07		1.50			10.11	20.18	50
Centerville Power House	"	485	.14	.12	.96	2.15	4.40	.86	1.55	2.22	.76		.50	2.30	.05		16.01	41.17	39
Colusa 1 SSW	"	60	.14	.03	.33	.49	1.73	.13	.20	.23	.28			1.70			5.26	15.95	33
De Sabla	"	2713	.02	.55	1.10	2.47	5.90	2.80	1.55	4.81	2.52	.03	.85	3.18	.45		26.23	61.23	43
East Park Reservoir	"	1205		.20	.22	.19	2.65	.74	.05	1.87	.78	.05	.15	.76			7.66	17.96	43
Manzanita Lake	"	5850			.30	1.29	1.58	1.35	.41	2.56	2.06	1.08	.42	1.00	1.14	.29	13.48		
Bradley	Salinas	540					.02	.17	.02		1.90	2.15	.40	.43	.10		5.19		
Chittenden Pass	Pajaro	125		.01		.02	.65	1.26	.11	1.74	3.85	2.38		.40	.58	.07	11.07		
Hernandez 2 NW	"	2160				T	.04	.39	T	.42	3.64	2.63	T		.67	.17	7.96	15.95	50
Cazadero	Russian	1040	.45	3.52		3.30	7.95	1.10	4.55	10.75	3.53	.15	.66	3.04	.06		39.06	69.83	57
Graton	"	190	.25	.49	.25	1.75	4.22	.73	2.05	5.20	2.26		.05	2.09	.12	.01	19.47	39.61	49
Healdsburg	"	110	.12	.27	.35	2.92	3.73	1.01	2.04	3.20	2.22	.03	.20	1.99	.18		18.26	39.72	46
Alderpoint	Eel	435		.66	.52	2.70	2.15	1.50	.80	5.06	1.90	.03	.23	.70	.37	.17	16.79		
Miranda Spengler Ranch	"	5713	.22	1.20	1.86	2.47	2.72	1.17	2.38	4.19	2.38		.64	1.05	.26	.02	20.56	56.40	37
OREGON																			
Alsea Fish Hatchery	Alsea	230	.23	.61	.11	.97	1.10	2.00	4.25	.85	.56	.29	.78	2.00	.79		14.54		
Tidewater 1 WSW	"	50	.22	.78	.12	.80	1.62	1.43	3.22	.34	.60	.36	.50	2.05	.75		12.79		
Powers	Coquille	300	.42	1.47	.05	1.17	1.92	1.61	2.99	1.95	.80	.25	3.55	4.15	.91	.05	21.29	57.27	37
Sitkum 2 SW	E.F.,Coquille	568	.39	1.48	.07	1.06	2.30	1.31	2.47	2.56	1.03	.24	4.23	4.01	1.27	.04	22.46		
Tillamook	Trask	15	.33	.37		.87	.51	1.70	4.40	1.00	.33	.27	.83	1.05	.70		12.36	93.50	13
Newport	Elk Creek	136	.26	.56	.10	1.20	1.09	1.19	2.26	.20	.35	.07	1.16	1.36	.23		10.03	65.81	15
Brookings	N.F., Chetco	162	48	.48	.40	1.50	1.22	.81	2.88	.90	.30	.05	4.69	1.91	.56		16.18	74.64	22
Astoria WB Airport	Columbia	8	.43	.11		1.20	.38	1.73	2.69	.59	.21	1.26	.34	.72	.21		9.57	71.27	13
Bonneville Dam	"	85	.04	.23	.46		.73	.86	.50	1.56	.10	.06	.02	1.12	.85	.05	6.58	68.61	10
Dufur	"	1325	.08	T	T	.33	.09	.07	1.48	.07	T		T	.25	T		2.37	12.52	19
Echo	"	638	.14	.13		.17			.46		.05			.09			1.04	9.75	11
Heppner	"	1950		.24	.19		.14		.38	.02	.30				.28		1.55	13.27	12
Meacham	"	4050	.08	.26	.10	.02	T	T	.59	.37	.24			.07	.09		1.82	34.71	5
Pilot Rock 1 SE	"	1697		.12	.23	.02	.10		.22	.06	.20	.01			.06	.03	1.05	13.29	8
Portland WB Airport	"	21	.19	.26		.42	.63	1.10	1.99	.18	.07	.02	.42	1.03	.07		6.38	35.23	18
Umatilla	"	82		.23	.05		.09	.07	.11	.35	.02			T	.06		.98	7.86	12
Clatskanie 3 W	"	80	.20	.05	.02	.51	.48	2.50	2.20	.70	.19	.78	.51	.55	.08		8.77	53.83	16
Crescent Lake	Deschutes	4784	.08	.20	T	.60	.40	.31	2.24	2.36	.73		.05	.52	.73	.04	8.26		
Grizzly	"	3639	T	.17		.31		.25	.55	.58	.42			.02	.01		2.31	13.38	17
Lower Hay Creek	"	1898		T	.09	.04	.20		.87	.42	.20	.05			T		1.87		
Cove 1 ENE	Grande Ronde	3100	.03	.32				.10	.16	.06	.10	.20	.03	.04	.36		1.40	22.58	6
Elgin	"	2670		.12	.08	.08	T		.80	.47	.19				.09		1.83		
Enterprise	"	3760	05	.20	.01	T	T	T	.40	.37	.47			.04	.07		1.61	13.20	12
Dayville	John Day	2434	T	.10		.23	.02	.05	.45	.20	.60			.06	.02		1.73	11.53	15
Granite 4 WSW	"	4939		.16	.17	.02	.38	.41	.63	.96	.47	.08			.54	.03	3.85		
John Day	"	3063		.05	.05	.03		.02	.17	.19	.20	T	.06		.10	.03	.90		
Mikkalo 6 W	"	1550			.10	.30		T	1.05		T	.20				.40	2.05	9.32	22
Chiloquin	Klamath	4198	.05	.24	.06	.57	.09	.05	1.00	*	*	1.47	.03	.08	.02	T	3.66	17.25	21

PRECIPITATION, inches, December 15-28, 1955

Selected Stations

Table 5b- Continued

STATION	DRAINAGE	ELEVATION (ft.)	DAY														Total	ANNUAL Normal	Percent
			15	16	17	18	19	20	21	22	23	24	25	26	27	28			
OREGON (Cont'd.)																			
Crater Lake NPS HQ	Klamath	6475		0.39	0.61	1.02	0.38	1.05	1.49	4.44	1.61	0.41	0.04	0.04	0.73	0.36	12.57	59.53	21
Gerber Dam	"	4850	T	.05	.04	.32	.33	.36	.56	.96	1.01			.32	.05	T	4.00	17.51	23
Klamath Falls CAA AP	"	4085	T	.01	.20	.08	.56	.04	.67	.58	.18			.04	.09	T	2.45		
Beulah	Malheur	3277		.04		.20	.60	.12	.04	.06	.62			.03	.04		1.75	11.27	16
Malheur Branch Exp. Sta.	"	2251		.01		.14	.11	.11	T	.01	.70			T	.06	.10	1.24		
Ironside 2 W	"	3915				.25	.30		.25	.23	.61			.31			1.95		
Danner	Owyhee	4000		.02	.17	.10	.12	.03		.01	2.03	.08			.13	T	2.69	10.57	25
Owyhee Dam	"	2400			.09		.07				.54			.09		.05	.84	8.66	10
Rome	"	3378		T							1.70	T					1.70		
Sheaville	"	4600							.03	.54	1.90	.39		.16			3.04		
Lakeview	Pit	4774		.16	.10	.27	.49	.16	.43	.84	.63			.42	.08	T	3.58	14.13	25
Fish Lake	Rogue	4837		.19	.44	.51	.19	.57	.10	1.68	1.46	.26		T	.60	.37	6.37	42.23	15
Grants Pass	"	925		.66	.03	1.76	.71	.74	1.82	.76	.82	.05	1.01	1.11	.20		9.67	29.75	33
Medford WB AP	"	1312	.06	.50	.52	.26	.60	.41	2.27	1.48	.38		.01	.12	.04		6.65	18.15	37
Sexton Summit WB	"	3836	.30	.70	.31	1.30	.79	1.82	2.64	.64	.43	.02	2.00	.65	.31		11.91	30.96	38
Baker CAA AP	Snake	3368	.01	.01	T	.11	.02	.02	.39	.11	.45			.13	.01		1.26	13.17	10
Cornucopia	"	4700		.43	.14	.41	2.20	.42	2.18	2.75	.44	.08		.80	T	.35	10.20		
Ontario KSRV	"	2145		T		.15	.13	.09	T	T	.69	.01		T	.05	.07	1.19		
Rock Creek	"	4150		.07	.07	T	.29	.33	.91	1.32	.48	.11	.02		.50	.03	4.13	19.33	21
Elkton 3 SW	Umpqua	142	.25	1.33	.09	1.16	2.96	1.78	3.10	1.48	.87	.04	4.53	1.23	.30	T	19.12		
Myrtle Creek 12 ENE	"	1120		.51	.31	.34	.66	.25	1.36	1.72	.75	.16	.11	2.42	.30	.12	9.01		
Roseburg WB AP	"	505	.34	1.14	.07	.86	.79	1.33	1.80	.58	.49		3.05	1.55	.17		12.17	30.50	40
Toketee Falls	"	1950	.14	1.04		.63	.37	.71	2.42	2.91	.99			*	.74	.06	10.01		
Albany	Willamette	212	.02	.25	.06	.40	1.17	.64	1.29	1.65	.21	.22	.03	1.73	.51	.02	7.10	41.13	17
Blackbutte	"	1200	.02	.92	1.03	.61	1.00	1.06	2.45	2.31	1.01	.22	.07	3.73	.57	.18	15.18		
Cascadia RS	"	796	.17	.35	*	*	1.58	.91	3.71	2.21	.64	*	*	*	2.60	.20	12.37	62.21	20
Government Camp	"	3900	.10	1.00	.40	.10	.04	.03	.04	1.50	.30	.10	T	.55	1.10		5.26		
Marion Forks Fish Hatchery	"	2475	.06	.39	.21	.22	.53	.83	3.78	3.48	1.05	*	*	1.44	.64	.03	12.66		
Portland WB AP	"	21	.19	.26		.42	.63	1.10	1.99	.18	.07	.02	.42	1.03	.07		6.38	35.23	18
Milton Freewater	Walla Walla	1056	.03	.55		.17	T	.02	.40	.19	.03		*	.08	.07		1.54	14.00	11
Walla Walla 13 ESE	"	2400	.05	.56	.08	.13		.19	1.40	.78	.16			T	.31		3.66		
Weston 5 ESE	"	3230	.01	.35	.10	T	T		.67	.02	.10		.18	.01	.22		1.66		
WASHINGTON																			
Aberdeen	Chehalis	12	.10	.14	T		.84	.94	1.02	1.88	.70	1.09	1.30	.36	.65	.05	9.07	82.96	11
Centralia	"	135	.18	.10	.07	.49	.42	2.09	1.56	.58	.46	.56	.14	.59	.05		7.29	44.77	12
Hoquiam CAA AP	"	14	.29	.01		.88	.87	1.22	1.33	1.01	.29	1.33	.88	.58	.10		8.79		
Palmer 3 SE	Green	895	.03	.10	.31	.42	.26	.06	1.08	1.34	.80	.52	.05	.24	.94	.24	6.39	86.04	7
Stampede Pass WB	"	3963	.03	.25	.56	.05	.17	.90	1.08	1.32	.35	.02	.12	.73	.20		5.78	93.60	6
Snoqualmie Pass	Snoqualmie	3020	.23	.45	.69	.33	.71	2.34	1.48	2.57	.82	.92	.32	.44	.42	.31	12.03	94.74	13
Snoqualmie Falls	"	430	.03	.18	.10	.28	.27	1.80	.97	.92	.27	.14	.12	.72	.26		6.06	55.19	11
Everett	Snohomish	120		.20	*	.30	*	1.87	.89	.67	.75	.24	*	.57	.66		6.15	32.46	19
Scenic	Skykomish (Snohomish)	2224	.20	.38	.40	.40	.18	1.45	1.68	1.70	.32	.10	.17	.59	.18		7.75	75.35	10
Battle Ground	Columbia	295	.01	.43	.25	.30	.75	1.08	.72	1.61	.01	.14	.10	1.17	.23		6.80	47.22	15
Bickleton	"	3000	.13	.18		.06	.05	.26	1.72	.30	T		.06	.09	T		2.85	10.89	26
Chief Joseph Dam	"	821	T		T	.04	.17	.25	.17	T	.59	.50		.13			1.85		
Colville AP	"	1862	.07	.02	.01	.20	.51	.33	.42	.13			.08	.69			2.46		
Connell 12 SE	"	1078	.11	.16		.08	.09		.20					.07			.71		
Dallesport CAA AP	"	222	.17	.04	.06	.22	.05	.29	1.17	.18	T		.10	.08	.01		2.37		
Dayton	"	1610	.09	.34	.10	.05	T	.10	.53	.15	.02			.21	.02		1.61	20.50	8
Ephrata CAA AP	"	1258	T	T	T	.10	.07	.11	.57	.01			.02	.04			.92		
Stockdill Ranch	"	2200	.15	.12		.42	.61	.26	.78	.64	T	.02	.58	.18			3.76	16.72	22
Kid Valley	Cowlitz	690	.35	.30	T	.07	.47	1.54	1.30	1.89	.09	.23	.21	.84	.37		7.66		
Randle 1 E	"	946	.16	.46	T	.08	.12	.96	1.26	.78	.10	.07	.12	.49	.22		4.82	56.99	8
Kosmos	"	775	.25	.38	.08	.11	.32	.95	1.16	1.61	.17	.08	.08	.62	.34		6.15	56.85	11
Cougar 1 E	Lewis	495	.23	.72	.30	.97	.08	2.79	2.60	2.10	.31	.83	.42	2.00	.70		14.05	114.65	12
Conconully	Okanogan	2270	.17	.04	.06	.07	.35	.11	.44	.13		.27	.21	.63			2.48	14.54	17
Malott	"	845			T		.45	.05	.61					.49			1.60		
Oroville 3 NW	"	1060	.01		T	.03	.17	.05	.32	.10		.13	.20	.57			1.58	10.77	15
Colfax 1 NW	Palouse	1973	.10	.21	.12	.05	.04	.05	.43	.72	T			.35	.01		2.08	20.30	10
Ewan	"	1720	T	.19	.11	T	.09	.02	.47	.10	T			.13			1.11		
Pullman 2 NW	"	2545	.21	.15	.06	.06	.02	.16	.98	.04	.07		.02	.13			1.90	20.40	9
Sprague	"	1925	T	.10	.02	.07	.09	.11	.62	.05				.22	T		1.28		
Metaline Falls	Pend Oreille	2107	T		T	T	.93	.68	.40	.35		T	.07	1.07	.24		3.74	26.40	14
Newport	"	2135	.06	.02		T	.88	.65	.58	.62				.85	.17		3.83	23.15	17
Concrete	Skagit	270	.11	.11	2.06	T	.60	.92	.99	1.50	.24	.40	.29	*	.55	.04	7.81	83.94	9
Darrington RS	"	550	.20	.52	.25		.67	1.71	.86	1.83	.04	.23	.52	.35	.80		7.98	75.95	11
Diablo Dam	"	891		.12	.08		.59	1.04	1.35	1.71	.77	.21	.15	.34	.39	T	6.75		
Anatone	Snake	3570	.05	.12	.19				.94	.51	.16			.31			2.28	22.55	10
Clarkston Heights	"	1186	.07	.12	.11				.22	.18	.06			.06	.11		.93	8.50	11
La Crosse 3 ESE	"	1546	.21	T	.10	.03	T	.03	.32	.31	T			.13			1.13	14.58	8
Wawawai 2 NW	"	700						.25	.75	.25	.30						1.55	18.86	8
Spokane WB AP	Spokane	2357	.16	.16	.02	.25	.19	.30	.77	T	T		.08	.22			2.15	14.92	14
Tekoa	"	2610	T	.11	.13	.06	.03	.13	.12	.74	.03	.02			.02		1.39		
Wellpinit	"	2450	.03	.06	.03	.17	.46	.36	.48	.31			T	.23			2.13	17.37	12
Benton City 2 NW	Yakima	680		.18	.03		.02	.02	.02	.47				T	T		.74	7.94	9
Ellensburg CAA AP	"	1727	T	.02	.01	.30	.09	.14	.56	.18		T	.02	.05			1.37	8.53	16
Lake Kachess	"	2270		.18	.32	.19	.52	.40	.50	1.02	.70	.09	.02	.18	.19	.06	4.37	50.09	[illegible]
Moxee City 10 E	"	1550	.08	.06		.15		.17	.63								1.09		
Rimrock Tieton Dam	"	2730		.04	.03		.49	.50	.85	1.25	.31	.17	.04	.21	.10	T	3.99	24.49	16
IDAHO																			
Anderson Dam	Boise	3882	.15		.04	.30	.40	.46	.26	1.78	1.00	.10	T		T		4.49		
Caldwell	"	2372		.03		.10	T	.03			.89			.17	.05	T	1.27	10.21	12
Kuna 2 NNE	"	2685		.03	.02	T	T	T	T	T	1.12	T			.04	T	1.21	10.71	11
Coeur D'Alene RS	Coeur D'Alene	6810	.01	.26	.07	.01	.64	.49	.36	.75	.08	.02	.01	.16	.20		3.06	24.35	13
Kellogg	"	2305		.29	.17		.65	.48	.40	1.00	.10	.10		.23	.49		3.91	29.32	13

PRECIPITATION, inches, December 15-28, 1955

Selected Stations

Table 5b-Continued

STATION	DRAINAGE	ELEVATION (ft.)	DAY														Total	ANNUAL Normal	Percent
			15	16	17	18	19	20	21	22	23	24	25	26	27	28			
IDAHO (Cont'd.)																			
Wallace	Coeur D'Alene	2770	0.05	0.31		0.04	1.45	0.90	1.02	1.76	0.22	0.05	0.02	0.78	0.03	T	6.63	38.18	17
Cascade 1 NW	Payette	4768		.21	0.08	.16	1.41	.39	.84	2.05	.76	.02	.02	.18	.41	.08	6.61		
Garden Valley RS	"	3147		.28	.06	.28	.89	.73	.60	2.39	1.71			.13	.18		7.25	22.14	33
Payette	"	2110		.05		.15	.48	T			.08	.60		.10	.14		1.60	10.87	9
Conda	Snake	6200			.15	.04	.12			.34	.28	.92	.40	.05	.23	.24	2.77	19.05	15
Driggs	"	6097				.25					1.09		.53			.20	2.07	16.99	12
Grand View	"	2600	T		.12	.09					.30	.32	.06	.05		.03	.97	7.66	13
Grangeville	Clearwater	3409	.09	.64	.09	T	.04	.03	1.11	.16	.43			.18	.12	.04	2.93	23.60	12
Lewiston	"	1413	.08	.22	.04	T		T	.26	.21	.07			.04	.11		1.03	13.12	8

* Amount included in following measurement.

RADIOSONDE DATA

Average monthly values

Table 20

DECEMBER 1955

Standard pressure surface (mb)	ALBANY, N. Y. (1008 MB.)				ALBUQUERQUE, N. MEX. (840 MB.)				ANCHORAGE, ALASKA (1006 MB.)				ANNETTE, ALASKA (1005 MB.)				ATHENS, GA. (993 MB.)				BARROW, ALASKA (1022 MB.)				BETHEL, ALASKA (1016 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	29	[illegible]	- 6.1	75	31	1,619	5.0	48	31	42	-11.8	60	31	37	- 1.6	72	30	246	5.5	70	31	8	-28.0	63	31	4	-13.3	80
1,000--	29	151	- 6.9	71	31	162			31	71			31	78			30	187			31	166	-24.2	68	31	126		
950----	29	554	- 7.7	71	31	596			31	472	- 8.7	52	31	489	- 3.4	63	30	611	7.0	54	31	553	-21.5	67	31	524	- 9.6	66
900----	29	970	- 9.4	74	31	1,046			31	884	- 8.8	48	31	911	- 5.6	62	30	1,054	6.3	56	31	941	-20.4	63	31	937	- 9.7	64
850----	29	1,411	-10.3	71	31	1,517			31	1,326	- 9.9	49	31	1,358	- 7.0	63	30	1,522	5.2	56	31	1,365	-19.9	58	31	1,377	-10.5	59
800----	29	1,877	-12.0	68	31	2,014	5.3	40	31	1,792	-11.5	50	31	1,829	- 8.8	61	30	2,016	3.9	52	30	1,811	-21.1	52	31	1,843	-11.3	53
750----	29	2,375	-13.0	60	31	2,544	2.4	41	31	2,292	-13.4	48	31	2,333	-11.1	55	30	2,544	2.3	48	30	2,297	-22.8	49	31	2,342	-13.3	49
700----	29	2,894	-14.5	53	31	3,093	- .9	42	31	2,807	-16.1	45	31	2,852	-14.2	51	30	3,094	- .2	46	30	2,789	-24.8	49	31	2,859	-15.9	51
650----	29	3,458	-17.2	50	31	3,687	- 4.0	41	31	3,368	-18.7	40	31	3,417	-17.6	49	30	3,687	- 3.1	35	30	3,338	-27.3	48	31	3,419	-18.9	50
600----	29	4,048	-20.3	45	31	4,309	- 7.0	38	31	3,955	-21.8	40	31	4,005	-21.5	46	27	4,312	- 6.4		30	3,898	-30.2	48	31	4,006	-22.0	48
550----	29	4,690	-23.6	45	31	4,985	-10.5	37	31	4,592	-26.0	41	31	4,644	-25.4	43	27	4,990	-10.8		30	4,522	-33.6		31	4,647	-25.2	47
500----	29	5,379	-27.6	40	31	5,710	-15.3	37	31	5,273	-30.4	44	31	5,326	-30.0	42	27	5,713	-15.9	34	30	5,176	-37.8		31	5,327	-29.4	45
450----	29	6,136	-32.6	37	29	6,508	-20.8		31	6,021	-34.9	47	31	6,071	-35.6	43	27	6,508	-21.6		30	5,906	-42.3		31	6,079	-33.8	
400----	29	6,950	-37.4		28	7,370	-27.2	34	31	6,827	-40.1		31	6,878	-41.3		26	7,355	-27.7		30	6,683	-46.8		31	6,889	-38.7	
350----	29	7,859	-43.2		28	8,317	-34.6		31	7,727	-45.5		31	7,772	-47.4		25	8,303	-35.1		30	7,558	-51.5		31	7,795	-44.3	
300----	29	8,883	-48.6		28	9,374	-43.2		31	8,740	-51.5		31	8,778	-52.4		24	9,362	-42.5		30	8,548	-55.8		31	8,813	-50.2	
250----	29	10,066	-53.0		27	10,586	-51.5		31	9,909	-55.7		31	9,945	-55.3		22	10,565	-51.2		30	9,702	-57.7		31	9,988	-55.0	
200----	29	11,500	-53.9		27	12,011	-57.4		30	11,324	-55.8		30	11,373	-54.2		18	11,996	-58.4		28	11,107	-57.7		23	11,441	-55.4	
175----	28	12,352	-54.0		26	12,846	-60.8		30	12,175	-54.6		30	12,230	-53.4		16	12,835	-60.8		28	11,949	-57.6		22	12,284	-54.4	
150----	28	13,338	-54.4		24	13,793	-63.0		29	13,163	-54.7		30	13,220	-53.6		16	13,787	-63.3		28	12,919	-58.3		20	13,237	-54.2	
125----	26	14,487	-55.3		23	14,908	-66.0		29	14,328	-54.6		29	14,386	-55.0		12	14,903	-64.8		25	14,063	-59.4		14	14,382	-54.5	
100----	25	15,897	-56.8		22	16,258	-66.9		29	15,752	-55.1		29	15,809	-55.5		9	16,245	-65.6		22	15,443	-59.6		7	15,709	-50.5	
80-----	22	17,291	-56.7		19	17,596	-65.9		29	17,172	-56.2		26	17,224	-56.6		8	17,604	-64.3		14	16,862	-61.6					
60-----	15	19,142	-57.1		13	19,352	-62.4		24	18,983	-58.1		25	19,066	-57.2		6	19,368	-60.8		6	18,616	-62.6					
50-----	12	20,290	-57.8		13	20,478	-61.9		23	20,127	-59.4		24	20,229	-58.0		6	20,502	-60.3									
40-----	7	21,642	-57.5		12	21,870	-58.4		16	21,563	-59.9		22	21,649	-59.7													
30-----					7	23,676	-57.4		6	23,355	-63.8		10	23,426	-61.4													

	BISMARCK, N. DAK. (959 MB.)				BOISE, IDAHO (915 MB.)				BROWNSVILLE, TEX. (1019 MB.)				BUFFALO, N. Y. (998 MB.)				BURRWOOD, LA. (1021 MB.)				CARIBOU, ME. (990 MB.)				CHARLESTON, S. C. (1022 MB.)			
SURFACE	31	505	-14.6	80	31	868	1.7	74	31	7	15.8	85	31	182	- 3.9	75	31	3	14.7	87	31	191	-11.6	70	31	13	6.7	77
1,000--	31	178			31	148			31	166	17.2	80	31	165			31	177	15.0	77	31	112			31	190	8.7	64
950----	31	575			31	571			31	607	16.5	72	31	568	- 5.8	71	31	613	12.8	72	31	510	-11.9	72	31	619	8.1	62
900----	31	985	- 9.9	71	31	1,004	2.2	65	31	1,064	15.3	59	31	990	- 8.2	75	31	1,064	11.2	69	31	918	-13.9	75	31	1,060	7.5	52
850----	31	1,428	- 6.9	62	31	1,465	.8	62	31	1,547	13.5	48	31	1,433	-10.0	67	31	1,540	9.9	56	31	1,352	-13.4	72	31	1,530	6.1	52
800----	31	1,901	- 7.2	57	31	1,950	- 1.8	63	31	2,055	11.6	41	31	1,899	-11.0	57	31	2,042	8.6	42	31	1,813	-13.9	65	31	2,025	4.8	43
750----	31	2,410	- 8.6	50	31	2,468	- 4.8	67	31	2,597	9.2	32	31	2,398	-12.7	52	31	2,582	6.4	39	31	2,307	-15.9	61	31	2,556	2.7	42
700----	31	2,936	-10.5	47	31	3,001	- 7.8	63	31	3,161	7.0		31	2,918	-14.2	51	31	3,137	4.0	34	31	2,819	-17.9	58	31	3,105	.2	38
650----	31	3,511	-13.0	45	31	3,581	-11.3	60	31	3,768	3.5		31	3,482	-16.8	50	31	3,741	1.5		30	3,372	-20.8	53	31	3,701	- 2.8	38
600----	31	4,109	-16.3	43	30	4,181	-15.0	54	31	4,411	- .4		31	4,074	-19.8	50	30	4,376	- 2.3		30	3,954	-24.1	51	31	4,327	- 6.2	37
550----	31	4,762	-20.2	43	28	4,838	-19.7	48	31	5,102	- 4.9		31	4,720	-23.0	50	29	5,060	- 7.0		30	4,587	-28.2	51	31	5,005	-10.2	
500----	31	5,457	-25.0	43	27	5,527	-24.8	46	31	5,843	-10.4		31	5,408	-27.4	46	29	5,796	-12.1		30	5,260	-32.6	49	31	5,730	-15.2	
450----	31	6,225	-30.5	39	27	6,295	-30.5		31	6,654	-16.3		31	6,164	-32.4	43	29	6,600	-18.1		30	6,006	-37.4	51	31	6,526	-20.6	
400----	31	7,041	-36.5		27	7,112	-36.4		31	7,520	-23.1		31	6,980	-38.0		29	7,462	-24.6		30	6,798	-42.8		31	7,380	-26.9	38
350----	31	7,953	-43.4		27	8,027	-41.6		31	8,483	-30.3		31	7,886	-44.3		28	8,420	-32.1		30	7,687	-48.1		31	8,329	-33.9	40
300----	31	8,973	-50.3		27	9,058	-47.3		31	9,559	-38.5		31	8,904	-50.2		27	9,484	-40.2		28	8,709	-52.0		31	9,393	-41.5	
250----	31	10,145	-55.9		27	10,247	-53.0		31	10,786	-47.7		31	10,080	-54.7		24	10,706	-49.5		27	9,882	-53.4		31	10,606	-50.3	
200----	31	11,556	-57.4		27	11,675	-55.2		31	12,225	-57.5		31	11,502	-55.5		22	12,132	-58.8		26	11,313	-52.5		31	12,035	-58.6	
175----	30	12,396	-56.2		25	12,526	-54.7		30	13,056	-61.8		31	12,352	-55.7		21	12,959	-62.6		25	12,179	-52.6		31	12,868	-61.6	
150----	27	13,380	-56.8		24	13,509	-55.2		28	14,006	-65.3		30	13,333	-56.3		20	13,905	-66.1		25	13,173	-52.8		31	13,815	-64.5	
125----	26	14,539	-56.3		23	14,675	-56.9		18	15,108	-67.5		27	14,482	-57 1		17	15,004	-68.9		23	14,351	-53.4		31	14,924	-66.6	
100----	19	15,964	-57.1		20	16,088	-58.6		9	16,447	-71.0		23	15,878	-58.9		14	16,335	-71.9		22	15,796	-55.2		28	16,264	-68.4	
80-----	17	17,389	-57.1		20	17,488	-58.9		6	17,742	-71.4		19	17,290	-57.3		12	17,648	-71.4		21	17,216	-56.3		24	17,597	-67.3	
60-----	15	19,211	-58.2		20	19,295	-58.5						17	19,104	-58.3		10	19,381	-66.1		20	19,045	-57.3		22	19,341	-63.5	
50-----	12	20,354	-56.9		20	20,440	-58.4						16	20,252	-59.2		10	20,493	-63.6		18	20,183	-58.4		22	20,466	-60.6	
40-----	7	21,794	-56.9		18	21,826	-58.1						13	21,650	-59.2		9	21,878	-58.1		14	21,593	-58.8		22	21,870	-56.1	
30-----	5	23,679	-56.6		12	23,653	-57.8						12	23,455	-58.6		7	23,717	-53.9		9	23,379	-58.3		20	23,718	-51.8	
20-----					6	26,266	-57.2						6	26,075	-57.2										9	26,351	-48.2	

	COLD BAY, ALASKA (1011 MB.)				COLUMBIA, MO. (993 MB.)				DODGE CITY, KANS. (927 MB.)				EL PASO, TEX. (884 MB.)				ELY, NEV. (808 MB.)				FAIRBANKS, ALASKA (1001 MB.)				FT. HUACHUCA, ARIZ. (859 MB.)			
SURFACE	29	27	- 0.2	83	31	238	- 1.1	64	31	792	- 1.7	66	31	1,195	10.4	39	31	1,908	- 1.7	71	31	135	-22.6	71	31	1,428	11.0	38
1,000--	29	116			31	179			31	174			31	148			31	170			31	144			31	131		
950----	29	527	- 3.1	77	31	591	- 1.1	57	31	591			31	592			31	592			31	530	-18.2	59	31	573		
900----	28	953	- 3.8	70	31	1,021	- .9	54	31	1,025	.1	54	31	1,044			31	1,036			31	929	-17.0	61	31	1,030		
850----	28	1,403	- 4.8	60	31	1,477	- 1.0	51	31	1,485	3.5	48	31	1,523	12.1	33	31	1,498			31	1,358	-16.4	61	31	1,511	12.2	35
800----	28	1,878	- 6.4	51	31	1,961	- 1.1	52	31	1,977	3.7	37	31	2,027	9.2	37	31	1,986			31	1,813	-17.2	59	31	2,017	9.8	35
750----	28	2,386	- 8.3	46	31	2,480	- 2.6	52	31	2,502	1.3	35	31	2,564	6.5	35	31	2,511	- .7	61	31	2,302	-18.7	59	31	2,552	6.1	38
700----	28	2,914	-10.5	46	31	3,019	- 4.9	46	31	3,051	- 1.7	32	31	3,122	3.3	34	31	3,053	- 3.6	62	31	2,808	-20.3	58	31	3,110	3.0	33
650----	28	3,486	-13.4	43	31	3,602	- 7.4	40	31	3,637	- 5.4	33	31	3,725	- .2		31	3,641	- 6.7	59	31	3,360	-22.9	58	31	3,706	.2	
600----	28	4,086	-16.9		31	4,218	-10.9	38	31	4,260	- 9.3	32	31	4,355	- 3.4		31	4,256	-10.6	52	31	3,936	-26.0	57	31	4,344	- 3.4	
550----	28	4,738	-20.8		31	4,880	-15.4	37	31	4,926	-13.3	30	31	5,038	- 7.4		31	4,924	-14.9	52	31	4,567	-29.6	51	29	5,021	- 8.0	
500----	27	5,442	-24.9		31	5,594	-20.1		31	5,646	-18.1	33	30	5,771	-12.9		31	5,636	-19.2	47	31	5,235	-33.4	48	27	5,752	-13.5	
450----	27	6,209	-30.0		31	6,374	-25.7		31	6,431	-23.4	34	30	6,572	-19.1		31	6,419	-24.6	42	30	5,965	-38.0		27	6,543	-19.6	
400----	27	7,030	-35.4		31	7,209	-32.1		31	7,275	-29.7	34	30	7,431	-25.8		31	7,260	-30.1	42	29	6,755	-43.2		26	7,405	-26.6	
350----	27	7,945	-41.9		29	8,133	-39.2		31	8,212	-37.0		30	8,382	-33.6		31	8,197	-36.7	42	29	7,644	-48.3		23	8,359	-34.0	
300----	27	8,971	-49.3		29	9,171	-46.7		31	9,259	-45.2		30	9,443	-42.2		31	9,247	-43.8		29	8,647	-52.7		22	9,414	-42.4	
250----	27	10,145	-55.4		29	10,360	-53.4		31	10,452	-53.2		30	10,652	-50.6		30	10,452	-50.9		29	9,815	-55.3		20	10,619	-51.1	
200----	26	11,573	-57.0		29	11,779	-57.8		31	11,870	-58.3		30	12,079	-58.2		30	11,884	-56.4		29	11,237	-54.4		15	12,057	-57.6	
175----	22	12,412	-55.8		29	12,619	-58.8		31	12,707	-60.0		30	12,912	-61.5		27	12,725	-58.1		29	12,092	-54.3		13	12,918	-60.8	
150----	16	13,359	-53.9		29	13,581	-60.6		31	13,664	-61.8		30	13,860	-64.1		27	13,689	-60.0		25	13,055	-53.3		6	13,850	-64.9	
125----	12	14,497	-53.3		26	14,700	-61.5		30	14,786	-63.9		30	14,966	-67.4		27	14,820	-61.7		24	14,228	-53.5					
100----	9	15,948	-54.1		23	16,077	-61.6		28	16,151	-64.6		25	16,307	-67.7		26	16,198	-62.9		23	15,659	-54.1					
80-----	7	17,412	-55.2		20	17,474	-61.8		22	17,520	-64.5		24	17,645	-68.6		23	17,577	-61.8		21	17,078	-55.0					
60-----					18	19,254	-61.5		17	19,299	-62.3		22	19,380	-64.7		21	19,365	-60.8		15	18,882	-58.4					
50-----					16	20,387	-61.0		15	20,420	-61.7		20	20,492	-62.2		17	20,520	-59.8		12	20,032	-59.0					
40-----					12	21,775	-59.4		13	21,796	-60.2		17	21,885	-59.1		15	21,922	-58.9		6	21,388	-61.1					
30-----					8	23,575	-57.8		5	23,609	-56.0		11	23,707	-55.2		9	23,726	-58.3									

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

DECEMBER 1955

Standard pressure surface (mb)	FT. WORTH, TEX. (998 MB.)				GLASGOW, MONT. (934 MB.)				GRAND JUNCTION, COLO. (854 MB.)				GREAT FALLS, MONT. (884 MB.)				GREEN BAY, WIS. (995 MB.)				GREENSBORO, N. C. (990 MB.)				HATTERAS, N. C. (1021 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	178	8.1	62	31	695	-13.6	83	31	1,474	1.9	64	31	1,123	- 5.6	70	31	210	- 7.9	71	31	273	0.9	68	31	3	6.5	77
1,000	30	161			31	170			31	174			31	140			31	166			31	195			31	179	6.4	70
950	30	590	8.8	52	31	567			31	603			31	554			31	571	- 8.0	69	31	611	2.5	49	31	600	4.6	63
900	30	1,034	8.9	47	31	979	- 9.1	67	31	1,043			31	979			31	985	- 8.9	64	31	1,045	.9	45	31	1,038	3.5	51
850	30	1,506	8.5	36	31	1,424	- 5.7	58	31	1,509			31	1,429	- 4.2	53	31	1,427	- 8.8	61	31	1,504	.6	41	31	1,501	2.3	48
800	30	2,006	7.1	32	31	1,899	- 6.7	57	31	2,000	2.2	51	31	1,907	- 5.1	59	31	1,896	- 9.4	55	31	1,990	.1	36	31	1,989	1.0	43
750	30	2,543	4.9	28	31	2,403	- 8.6	54	31	2,530	- .5	52	31	2,418	- 7.6	63	31	2,400	-10.5	49	31	2,514	- 1.5	34	31	2,513	- .7	39
700	30	3,094	2.2	27	31	2,933	-11.3	55	31	3,067	- 3.9	54	31	2,946	-10.4	63	31	2,923	-12.0	49	31	3,053	- 3.6	34	31	3,055	- 3.2	38
650	30	3,696	- .7	24	31	3,506	-14.3	54	31	3,655	- 7.4	50	31	3,521	-13.7	58	31	3,492	-14.6	48	31	3,641	- 6.5	32	31	3,643	- 6.4	38
600	30	4,324	- 4.3		31	4,102	-17.2	50	31	4,267	-11.6	48	31	4,119	-16.8	54	31	4,090	-17.7	47	31	4,256	-10.2		31	4,260	- 9.5	33
550	30	5,008	- 8.9		31	4,749	-21.0	48	31	4,932	-15.4	45	31	4,769	-21.2	54	31	4,740	-21.2	47	31	4,926	-13.9	34	31	4,933	-13.2	
500	30	5,734	-13.9		31	5,446	-25.9	49	31	5,642	-19.8	43	31	5,463	-25.9	53	31	5,433	-25.3	41	31	5,639	-18.8	35	31	5,647	-17.9	
450	30	6,534	-19.7		31	6,205	-31.1	47	31	6,428	-24.8	43	31	6,225	-31.4	52	31	6,196	-30.5	37	31	6,424	-24.0	37	30	6,430	-23.2	
400	30	7,389	-26.5		31	7,025	-37.0	46	31	7,263	-30.4	42	31	7,041	-37.4		31	7,016	-36.4		31	7,264	-30.1		30	7,274	-29.3	
350	30	8,338	-34.2		31	7,934	-44.0		31	8,198	-37.6		31	7,949	-43.8		31	7,928	-42.7		31	8,201	-37.0		30	8,214	-35.9	
300	30	9,397	-42.3		31	8,951	-50.7		31	9,242	-45.6		31	8,969	-50.2		31	8,953	-49.3		31	9,249	-44.2		30	9,267	-43.3	
250	29	10,609	-50.7		31	10,120	-56.2		31	10,435	-52.9		31	10,144	-54.8		31	10,130	-54.4		31	10,450	-51.7		30	10,469	-51.4	
200	28	12,030	-58.3		31	11,530	-57.5		31	11,858	-56.8		31	11,560	-56.8		31	11,553	-55.3		31	11,874	-57.5		30	11,896	-57.5	
175	27	12,864	-61.4		29	12,375	-56.9		31	12,699	-58.8		30	12,411	-56.1		31	12,404	-55.5		31	12,713	-59.2		30	12,733	-60.0	
150	24	13,822	-63.9		27	13,352	-55.6		31	13,663	-60.3		30	13,390	-56.0		30	13,378	-55.3		31	13,671	-61.9		30	13,689	-62.4	
125	22	14,936	-67.3		26	14,514	-56.7		29	14,796	-61.7		28	14,551	-55.9		29	14,541	-56.0		31	14,793	-63.9		29	14,813	-64.6	
100	19	16,284	-69.2		26	15,924	-57.9		27	16,166	-63.5		26	15,979	-56.3		28	15,951	-57.0		31	16,154	-65.1		29	16,167	-66.1	
80	17	17,620	-68.4		25	17,339	-58.0		21	17,534	-62.2		25	17,390	-57.3		25	17,368	-57.7		30	17,513	-63.6		28	17,520	-65.4	
60	13	19,360	-65.3		23	19,143	-58.4		19	19,315	-60.0		23	19,214	-58.1		22	19,175	-58.0		27	19,279	-62.2		26	19,286	-63.0	
50	11	20,477	-64.1		20	20,308	-59.1		19	20,450	-60.0		20	20,384	-58.5		20	20,334	-57.6		21	20,415	-60.2		25	20,413	-60.9	
40	11	21,858	-59.6		15	21,725	-59.3		15	21,851	-58.1		20	21,787	-58.5		16	21,733	-58.4		18	21,817	-57.2		23	21,806	-57.5	
30	11	23,674	-54.3		9	23,578	-59.6		12	23,668	-57.6		13	23,577	-60.4		9	23,589	-57.7		14	23,632	-55.1		18	23,652	-53.3	
20	9	26,303	-50.2																						5	26,264	-51.4	
15	6	28,154	-50.8																									

	HILO, T. H. (1013 MB.)				INTERNAT. FALLS, MINN. (976 MB.)				JACKSONVILLE, FLA. (1021 MB.)				KING SALMON, ALASKA (1018 MB.)				KOTZEBUE, ALASKA (1019 MB.)				LAKE CHARLES, LA. (1021 MB.)				LANDER, WYO. (826 MB.)			
SURFACE	31	9	23.6	76	31	360	-15.5	62	31	6	11.2	87	19	15	-13.5	78	31	5	-18.7	80	31	5	12.4	80	31	1,696	- 5.1	66
1,000	31	125	22.4	75	31	175			31	182	12.8	79	19	153	- 9.0	67	31	143	-16.7	69	31	176	12.8	75	31	158		
950	31	573	19.2	78	31	564	-14.1	62	31	613	11.3	76	19	552	- 8.2	58	31	537	-14.9	65	31	612	11.6	76	31	577		
900	31	1,034	15.9	81	31	974	-12.2	60	31	1,063	10.3	65	19	969	- 7.6		31	939	-15.1	64	31	1,059	10.8	62	31	1,010		
850	31	1,518	13.0	84	31	1,411	-11.5	58	31	1,538	8.4	63	19	1,414	- 8.1		31	1,371	-14.5	61	31	1,535	10.3	50	31	1,463		
800	31	2,028	11.8	63	31	1,876	-11.5	59	31	2,037	7.1	49	19	1,884	- 8.5		31	1,830	-15.3	56	31	2,038	8.9	42	31	1,944	- 2.1	57
750	31	2,577	10.0	49	31	2,373	-12.6	52	31	2,573	4.8	46	19	2,387	-10.1		31	2,323	-17.5	54	31	2,578	6.8		31	2,468	- 3.0	52
700	31	3,138	7.2	40	31	2,894	-14.6	47	31	3,127	2.7	39	19	2,912	-12.4		31	2,830	-19.6	53	31	3,134	4.1		31	3,001	- 6.2	53
650	31	3,748	3.7	36	31	3,456	-17.2	47	31	3,727	- .6	35	19	3,480	-15.0		31	3,386	-22.4	51	31	3,739	1.1		31	3,582	- 9.7	51
600	31	4,390	- .1		31	4,049	-20.1	44	31	4,358	- 4.1	28	19	4,077	-18.1		31	3,962	-25.5	47	31	4,373	- 2.5		31	4,189	-13.5	50
550	31	5,079	- 4.6		31	4,689	-23.8	44	31	5,038	- 8.4		19	4,724	-21.9		31	4,594	-29.2	45	31	5,060	- 7.0		31	4,847	-17.2	44
500	31	5,824	- 9.7		31	5,378	-28.3	44	31	5,771	-13.6		19	5,416	-26.7		31	5,263	-33.4	45	31	5,794	-12.1		31	5,554	-22.0	41
450	31	6,638	-15.1		31	6,130	-33.5	43	31	6,566	-19.1		19	6,178	-31.2		31	6,006	-37.8		31	6,598	-18.1		31	6,326	-27.8	43
400	31	7,511	-21.3		30	6,947	-39.2		31	7,430	-25.4	35	19	6,994	-36.2		31	6,799	-42.9		31	7,460	-24.7		31	7,156	-33.9	43
350	31	8,481	-28.7		30	7,848	-45.4		31	8,384	-32.6		19	7,908	-42.6		30	7,693	-48.3		31	8,416	-32.2		31	8,079	-40.2	
300	31	9,565	-37.4		29	8,858	-51.7		31	9,453	-40.6		18	8,958	-49.4		30	8,694	-53.1		30	9,487	-40.5		31	9,112	-47.7	
250	31	10,796	-47.4		29	10,025	-56.1		31	10,669	-49.6		18	10,133	-55.7		29	9,849	-56.0		30	10,705	-48.8		30	10,304	-53.6	
200	30	12,241	-57.7		29	11,440	-56.2		31	12,100	-58.5		16	11,570	-58.8		29	11,262	-56.4		30	12,141	-57.6		29	11,714	-56.8	
175	26	13,086	-62.8		28	12,283	-55.9		31	12,930	-62.6		15	12,424	-58.4		29	12,110	-56.1		30	12,976	-61.3		29	12,556	-58.1	
150	21	14,020	-68.0		24	13,258	-55.7		30	13,870	-65.3		15	13,391	-58.8		28	13,082	-55.9		30	13,923	-64.9		28	13,519	-59.0	
125	18	15,105	-73.1		22	14,429	-54.9		30	14,972	-67.7		13	14,527	-59.7		28	14,240	-56.1		29	15,032	-67.5		25	14,661	-58.1	
100	12	16,416	-77.2		21	15,846	-56.2		25	16,303	-69.9		6	15,910	-58.9		28	15,653	-57.4		27	16,365	-69.9		24	16,062	-58.9	
80	6	17,704	-77.3		21	17,260	-57.1		16	17,628	-68.6		6	17,314	-58.4		25	17,078	-58.7		27	17,695	-69.2		21	17,466	-59.2	
60					19	19,088	-57.0		12	19,356	-64.2		5	19,123	-60.0		18	18,839	-60.0		26	19,425	-65.7		19	19,263	-59.6	
50					13	20,237	-57.5		12	20,477	-61.8						14	19,968	-61.7		25	20,538	-62.8		17	20,403	-59.7	
40					9	21,672	-57.0		11	21,868	-56.7										23	21,931	-58.7		10	21,808	-58.1	
30									9	23,719	-52.1										18	23,765	-53.5					
20																					7	26,380	-50.1					

	LAS VEGAS, NEV. (940 MB.)				LITTLE ROCK, ARK. (1012 MB.)				MAZATLAN, MEXICO (1013 MB.)				MC GRATH, ALASKA (1005 MB.)				MEDFORD, ORE. (967 MB.)				MERIDA, MEXICO (1015 MB.)				MIAMI, FLA. (1019 MB.)			
SURFACE	31	660	9.1	39	31	79	5.7	67	31	14	19.5	81	31	103	-22.5	69	31	401	5.4	88	30	27	22.7	82	31	4	19.8	79
1,000	31	141			31	175	5.2	62	31	122	19.7	73	31	142			31	125			30	159	22.1	80	31	164	20.1	73
950	31	573			31	599	5.1	57	31	578	23.3	34	31	529	-16.2	65	31	550	6.0	78	30	602	19.8	78	31	605	17.7	73
900	31	1,023	11.7	35	31	1,036	4.5	54	31	1,038	20.8	34	31	933	-14.7	57	31	990	4.6	72	30	1,069	17.1	76	31	1,065	14.6	76
850	31	1,499	8.8	40	31	1,501	4.5	45	31	1,529	17.7	33	31	1,366	-14.7	53	31	1,453	1.9	70	30	1,555	14.3	73	31	1,546	11.9	74
800	31	1,998	5.9	42	31	1,995	4.1	43	31	2,043	14.2	34	31	1,824	-14.8	55	31	1,940	- 1.1	70	30	2,066	12.1	60	31	2,053	10.4	55
750	31	2,529	3.2	41	31	2,522	2.2	39	31	2,595	10.3		31	2,317	-16.3	49	31	2,456	- 4.1	69	30	2,609	10.0	48	31	2,594	8.1	47
700	31	3,080	.3	40	31	3,073		32	30	3,154	6.5		31	2,828	-18.0	42	31	2,994	- 7.2	66	30	3,177	7.5	42	31	3,155	5.3	40
650	31	3,672	- 3.0	36	31	3,666	- 3.1	28	30	3,767	3.4		31	3,387	-20.2	42	30	3,574	-10.9	62	28	3,790	4.0	40	31	3,763	2.0	
600	31	4,299	- 7.0	37	31	4,292	- 6.8		30	4,403	- .6		31	3,967	-23.4	44	30	4,179	-14.4	55	28	4,431	.6		31	4,398	- 1.3	
550	31	4,976	-11.4	39	31	4,967	-11.0		29	5,094	- 5.3		30	4,602	-27.1	45	30	4,838	-18.6	52	27	5,123	- 3.5		31	5,085	- 5.3	
500	31	5,697	-16.4	38	30	5,687	-15.7		28	5,835	-10.5		29	5,280	-31.1	46	30	5,537	-23.3	50	27	5,870	- 8.5		31	5,829	-10.2	
450	31	6,485	-22.0	41	30	6,478	-21.4		27	6,643	-16.6		28	6,037	-35.6		30	6,310	-28.2	47	27	6,688	-14.1		31	6,640	-15.7	
400	30	7,335	-28.1	40	30	7,330	-28.0		27	7,510	-23.4		28	6,841	-40.5		30	7,136	-33.6	44	27	7,564	-20.4		31	7,511	-22.3	
350	29	8,274	-35.3		30	8,275	-35.1		27	8,471	-31.4		28	7,740	-45.7		30	8,061	-39.5		27	8,537	-27.5		31	8,478	-29.7	
300	28	9,331	-43.4		30	9,332	-42.7		25	9,539	-39.8		26	8,742	-51.0		30	9,100	-45.6		26	9,627	-35.8		31	9,558	-37.9	
250	28	10,532	-51.8		30	10,539	-50.9		19	10,762	-49.0		25	9,899	-55.5		30	10,297	-51.8		22	10,864	-45.6		31	10,787	-47.7	
200	28	11,955	-57.7		28	11,972	-58.5		12	12,195	-57.3		23	11,312	-54.8		30	11,731	-54.7		19	12,311	-56.5		31	12,225	-58.1	
175	28	12,792	-60.1		27	12,807	-60.8		7	13,061	-61.0		23	12,167	-53.9		30	12,584	-55.2		15	13,139	-61.9		30	13,056	-63.2	
150	28	13,749	-62.0		26	13,763	-63.3		5	14,000	-64.9		21	13,153	-53.5		30	13,564	-56.7		11	14,085	-67.0		30	13,993	-67.5	
125	26	14,877	-64.9		25	14,875	-65.4						19	14,307	-54.5		30	14,713	-58.6		6	15,174	-72.2		30	15,082	-70.8	
100	21	16,240	-66.7		22	16,238	-67.3						19	15,732	-54.9		30	16,110	-59.8						28	16,390	-74.0	
80	20	17,583	-65.5		17	17,589	-67.2						17	17,161	-55.9		28	17,501	-60.5						26	17,683	-74.1	
60	19	19,340	-62.3		15	19,335	-64.2						17	18,981	-57.9		25	19,314	-59.8						25	19,385	-67.6	
50	19	20,467	-61.4		13	20,450	-61.7						16	20,119	-58.8		21	20,446	-59.7						25	20,493	-63.1	
40	18	21,863	-58.8		8	21,824	-59.1						11	21,514	-60.3		19	21,842	-58.6						22	21,888	-57.0	
30	13	23,694	-56.1		7	23,647	-56.4						7	23,320	-61.0		15	23,671	-58.3						22	23,727	-53.1	
20	8	26,279	-53.0																						14	26,358	-49.3	
15	5	28,178	-51.0																									

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

DECEMBER 1955

Standard pressure surface (mb)	MIDLAND, TEXAS (919 MB.)				NANTUCKET, MASS. (1016 MB.)				NASHVILLE, TENN. ([illegible] MB.)				NOME, ALASKA (1017 MB.)				NORFOLK, VA (1022.MB.)				NORTH PLATTE, NEBR. (919 MB.)				OAKLAND, CALIF. (1017 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	871	8.3	40	31	14	- 1.4	71	31	177	3.5	73	31	7	-14.6	79	31	9	2.7	71	31	848	- 7.3	[illegible]	31	6	10.7	84
1,000	31	157			31	143	- 1.5	64	31	188			31	138	-12.7	75	31	184	3.2	61	31	178			31	150	11.2	73
950	31	595			31	551	- 4.0	65	31	605	3.0	56	31	536	-11.4	70	31	601	1.6	58	31	589			31	582	9.4	74
900	31	1,043	11.0	34	31	974	- 6.3	65	31	1,042	2.6	52	31	945	-11.0	65	31	1,033	.4	50	31	1,009	- 5.1	69	31	1,025	7.4	74
850	31	1,519	10.5	32	31	1,420	- 7.7	54	31	1,504	1.9	45	31	1,383	-11.8	59	31	1,491	- .7	46	31	1,463	- 1.3	56	31	1,494	5.1	68
800	31	2,022	9.2	33	31	1,890	- 8.8	50	31	1,992	.8	43	31	1,846	-13.1	50	31	1,974	- 1.7	43	31	1,946	- 1.2	52	31	1,987	2.5	63
750	31	2,560	6.6	32	31	2,394	-10.5	50	31	2,517	- .5	43	31	2,342	-15.1	46	31	2,497	- 3.1	41	31	2,466	- 2.9	52	31	2,513	- .3	58
700	31	3,116	3.3	29	31	2,917	-12.7	47	31	3,057	- 3.1	41	31	2,854	-17.7	46	31	3,030	5.4	37	31	3,004	- 5.2	50	31	3,056	- 3.0	47
650	31	3,720	- .1	25	31	3,488	-15.5	44	30	3,648	- 6.1	42	31	3,413	-20.6	44	31	3,616	- 8.0	34	31	3,585	- 8.7	49	30	3,644	- 6.4	46
600	31	4,350	- 3.8	24	31	4,080	-18.8	41	30	4,264	- 9.3	35	31	3,993	-24.2	45	31	4,227	-11.4	33	31	4,198	-12.4	45	30	4,262	- 9.9	42
550	31	5,032	- 8.4	24	31	4,728	-21.8		30	4,939	-13.6	34	31	4,628	-27.6	45	31	4,892	-15.2	36	31	4,859	-16.6	44	29	4,927	-14.0	39
500	31	5,763	-13.5		31	5,420	-25.9		30	5,650	-18.0		31	5,303	-31.6	45	31	5,603	-19.9	39	31	5,566	-21.5	40	29	5,642	-18.7	42
450	31	6,565	-19.6		31	6,184	-30.9		30	6,442	-23.1		31	6,052	-36.1		31	6,384	-24.9	41	31	6,342	-26.9	36	29	6,427	-23.8	41
400	31	7,418	-26.4		31	7,003	-36.2		30	7,282	-29.1	36	31	6,850	-41.1		31	7,222	-30.9	42	31	7,173	-32.8	36	29	7,271	-29.4	39
350	31	8,368	-34.1		31	7,917	-42.1		30	8,222	-36.3		31	7,746	-46.5		31	8,156	-37.4		31	8,098	-39.7		29	8,211	-35.8	42
300	31	9,428	-42.4		31	8,946	-48.0		30	9,273	-43.9		31	8,756	-51.6		30	9,202	-44.7		31	9,136	-46.6		29	9,266	-43.0	
250	31	10,635	-50.8		31	10,134	-52.0		30	10,475	-51.7		31	9,926	-55.7		30	10,400	-52.0		31	10,325	-53.7		29	10,473	-51.0	
200	30	12,065	-58.4		31	11,569	-54.1		29	11,896	-57.9		31	11,343	-56.3		28	11,834	-56.9		31	11,742	-57.3		27	11,909	-56.4	
175	30	12,899	-61.2		31	12,424	-54.9		29	12,733	-60.2		31	12,193	-55.0		26	12,667	-58.8		31	12,585	-58.0		27	12,754	-57.7	
150	30	13,847	-64.4		31	13,406	-56.0		29	13,689	-62.4		31	13,177	-55.1		25	13,631	-60.9		28	13,560	-59.1		27	13,722	-60.0	
125	30	14,955	-66.8		30	14,554	-57.9		26	14,815	-63.9		29	14,333	-55.3		22	14,762	-62.4		27	14,693	-60.0		26	14,850	-61.5	
100	28	16,300	-68.8		30	15,957	-58.7		25	16,169	-65.9		27	15,754	-56.0		21	16,141	-63.5		24	16,084	-60.5		24	16,234	-63.6	
80	24	17,642	-69.1		29	17,351	-59.0		22	17,525	-64.3		25	17,155	-56.0		20	17,504	-64.0		18	17,471	-60.8		23	17,601	-63.7	
60	19	19,366	-66.0		28	19,149	-59.0		19	19,294	-62.4		20	18,991	-58.1		18	19,269	-62.0		14	19,266	-59.9		20	19,376	-61.6	
50	19	20,480	-63.0		28	20,292	-58.7		19	20,421	-61.1		20	20,135	-59.5		17	20,404	-60.4		9	20,426	-59.4		18	20,514	-60.4	
40	18	21,860	-59.8		26	21,695	-57.3		17	21,803	-58.4		13	21,530	-60.6		14	21,808	-57.6		7	21,833	-58.6		15	21,921	-59.1	
30	15	23,683	-54.6		18	23,519	-54.3		13	23,616	-53.2		8	23,300	-61.3		13	23,640	-53.1						10	23,717	-57.4	
20	9	26,294	-51.4		9	26,138	-52.3										7	26,261	-51.6									

Standard pressure surface (mb)	OKLAHOMA CITY, OKLA. (973 MB.)				OMAHA, NEBR. (972 MB.)				PHOENIX, ARIZ. (978 MB.)				PITTSBURGH, PA. (979 MB.)				PORTLAND, ME. (1015 MB.)				RAPID CITY, S. DAK. (904 MB.)				ST. CLOUD, MINN. (982 MB.)			
SURFACE	31	391	2.1	66	31	403	- 6.4	72	31	341	13.6	51	31	353	- 2.2	73	31	20	- 7.5	71	31	966	- 6.5	78	31	316	-13.2	76
1,000	31	170			31	179			31	150			31	184			31	136	- 6.6	60	31	166			31	173		
950	31	590	3.9	54	31	586	- 6.1	66	31	591	17.3	31	31	593	- 2.7	69	31	540	- 8.1	62	31	574			31	571	-11.2	72
900	31	1,029	5.7	51	31	1,008	- 3.7	62	31	1,045	14.8	31	31	1,019	- 5.0	67	31	954	- 9.5	63	31	996			31	984	- 8.5	66
850	31	1,497	6.1	43	31	1,461	- 2.2	57	31	1,525	11.5	34	31	1,466	- 6.8	63	31	1,394	-10.6	61	31	1,451	- 2.1	58	31	1,428	- 8.1	58
800	31	1,992	4.6	40	31	1,942	- 2.1	51	31	2,028	8.1	38	31	1,939	- 7.5	54	31	1,859	-11.4	58	31	1,931	- 3.9	59	31	1,898	- 8.2	56
750	31	2,525	2.5	36	31	2,459	- 3.8	54	31	2,566	4.8	40	31	2,445	- 8.4	49	31	2,359	-13.0	55	31	2,440	- 5.8	61	31	2,404	- 9.6	52
700	31	3,071	.2		31	2,996	- 6.0	52	31	3,117	2.1	37	31	2,974	-10.0	45	31	2,876	-15.2	54	31	2,977	- 7.9	61	31	2,930	-11.0	45
650	31	3,667	- 2.8	34	31	3,577	- 8.9	51	31	3,717	- 1.3	34	30	3,548	-12.4	44	31	3,439	-18.2	51	31	3,549	-10.6	55	31	3,501	-13.4	45
600	31	4,291	- 6.4		31	4,189	-12.5	49	31	4,345	- 5.2	34	30	4,149	-15.7	46	31	4,027	-21.7	50	31	4,162	-14.6	54	31	4,103	-16.4	46
550	31	4,967	-10.6		31	4,848	-16.9	44	31	5,028	- 9.0	32	30	4,801	-19.6	46	30	4,669	-25.8	50	31	4,811	-18.9	49	30	4,748	-20.7	45
500	31	5,692	-15.6		31	5,556	-21.9	41	31	5,754	-14.1	30	30	5,501	-24.4	45	29	5,345	-30.3	49	31	5,518	-24.1	47	30	5,446	-25.1	42
450	31	6,486	-21.4		30	6,331	-27.5		30	6,555	-19.7	34	30	6,263	-29.8	46	29	6,093	-35.2		31	6,283	-29.5	43	30	6,207	-30.3	38
400	31	7,334	-27.9		29	7,164	-33.1		30	7,408	-26.1	34	30	7,090	-35.7	49	29	6,899	-40.6		31	7,109	-35.3		30	7,031	-36.4	
350	31	8,278	-35.3		28	8,091	-39.6		30	8,357	-33.7		30	8,006	-41.9		29	7,797	-45.8		31	8,024	-42.1		30	7,944	-42.6	
300	31	9,333	-43.5		28	9,129	-46.6		30	9,418	-42.1		30	9,033	-48.6		29	8,811	-50.5		31	9,048	-49.7		30	8,970	-49.3	
250	31	10,533	-52.0		27	10,325	-53.3		30	10,624	-51.3		30	10,214	-54.5		29	9,990	-52.9		31	10,223	-55.2		30	10,151	-54.1	
200	26	11,928	-57.9		26	11,738	-56.4		30	12,050	-57.6		26	11,649	-56.7		29	11,423	-54.0		31	11,635	-58.1		30	11,572	-55.7	
175	25	12,763	-59.5		26	12,583	-57.1		30	12,887	-60.2		25	12,496	-57.3		29	12,279	-54.2		28	12,480	-59.0		30	12,423	-55.5	
150	25	13,722	-61.5		26	13,555	-58.2		30	13,840	-63.2		22	13,461	-58.4		28	13,257	-54.3		22	13,451	-58.8		29	13,406	-55.7	
125	24	14,835	-64.0		25	14,701	-58.4		30	14,952	-66.0		21	14,607	-59.9		26	14,419	-55.6		15	14,630	-58.7		29	14,565	-56.3	
100	23	16,188	-65.6		21	16,093	-59.1		28	16,303	-67.8		17	15,985	-62.0		24	15,836	-56.7		6	16,038	-61.2		27	15,985	-56.9	
80	20	17,534	-65.5		19	17,482	-59.1		27	17,645	-66.9		12	17,364	-62.9		21	17,240	-57.6						24	17,402	-56.1	
60	17	19,300	-62.4		17	19,279	-59.5		26	19,389	-64.5		10	19,120	-62.9		17	19,016	-59.4						22	19,221	-56.6	
50	16	20,426	-61.1		15	20,411	-58.9		26	20,507	-62.3		9	20,239	-62.6		17	20,159	-58.3						17	20,396	-56.8	
40	12	21,809	-59.9		10	21,816	-58.4		25	21,889	-59.4		7	21,624	-61.7		14	21,581	-58.4						13	21,798	-57.3	
30	6	23,615	-58.8		8	23,628	-57.6		11	23,720	-56.9		5	23,428	-57.0		9	23,337	-58.6						11	23,625	-57.2	

Standard pressure surface (mb)	ST. PAUL IS., ALASKA (1014 MB.)				SAN ANTONIO, TEX. (992 MB.)				SAN JUAN, P. R. (1014 MB.)				SANTA MARIA, CALIF. (1010 MB.)				S. STE. MARIE, MICH. (993 MB.)				SPOKANE, WASH. (929 MB.)				TAMPA, FLA. (1020 MB.)			
SURFACE	30	10	- 0.3	86	31	243	11.0	64	31	19	22.4	88	31	74	11.6	81	31	221	- 7.7	84	31	722	- 2.0	84	31	7	14.2	84
1,000	30	121			31	170			31	142	23.9	79	31	160	11.6	78	31	162			31	130			31	177	16.1	76
950	30	533	- 2.7	77	31	606	12.7	57	31	596	21.2	79	31	593	11.0	73	31	562	- 8.9	72	31	545			31	615	14.9	71
900	30	956	- 4.2	72	31	1,055	12.4	47	31	1,058	18.1	77	31	1,039	9.3	68	31	977	-10.3	78	31	972	- 2.2	78	31	1,070	12.8	67
850	30	1,405	- 5.5	62	31	1,533	11.6	39	31	1,546	15.0	74	31	1,511	7.1	64	31	1,416	-11.6	76	31	1,425	- 3.5	75	31	1,549	10.9	61
800	30	1,878	- 7.5	55	31	2,038	9.7	35	31	2,058	12.5	67	31	2,008	5.1	55	31	1,879	-12.7	67	31	1,903	- 5.2	71	31	2,053	9.3	50
750	30	2,389	-10.2	49	31	2,575	7.3	31	31	2,602	10.1	53	31	2,541	2.9	48	31	2,374	-13.6	61	31	2,413	- 7.8	67	31	2,593	7.2	45
700	30	2,907	-13.1	46	31	3,136	4.8		31	3,170	7.7	39	31	3,089	.2	46	31	2,893	-15.3	58	31	2,942	-10.4	64	31	3,152	4.7	35
650	30	3,479	-16.5	45	31	3,739	1.4		31	3,787	5.0	34	31	3,685	- 3.1	45	31	3,455	-17.5	58	31	3,517	-13.7	59	31	3,757	1.3	
600	30	4,065	-20.1	48	31	4,377	- 2.4		31	4,428	1.7		31	4,309	- 6.8	40	31	4,046	-20.3	54	31	4,114	-17.3	55	31	4,392	- 2.1	
550	30	4,712	-23.8	48	31	5,058	- 7.0		31	5,122	- 2.4		31	4,985	-10.7	38	31	4,689	-24.0	50	31	4,762	-21.4	51	31	5,079	- 6.3	
500	30	5,395	-28.0		31	5,797	-12.5		31	5,874	- 7.1		31	5,711	-15.4	37	31	5,374	-28.3	46	31	5,457	-26.4	50	31	5,817	-11.0	
450	30	6,154	-33.0		31	6,597	-18.4		31	6,695	-12.7		31	6,505	-20.8	37	29	6,126	-33.6	47	30	6,211	-31.7	51	31	6,625	-16.7	
400	30	6,964	-38.1		31	7,459	-25.4		31	7,576	-19.0		31	7,359	-26.9	40	29	6,937	-39.4		30	7,033	-37.4		31	7,492	-23.2	
350	30	7,871	-44.1		25	8,395	-33.2		31	8,554	-26.3		31	8,308	-33.9	38	28	7,843	-45.4		30	7,941	-44.0		31	8,455	-30.7	
300	30	8,890	-50.2		25	9,459	-41.5		30	9,652	-34.5		31	9,369	-42.0		25	8,862	-50.6		30	8,961	-50.0		31	9,531	-38.8	
250	30	10,063	-55.1		25	10,671	-49.8		30	10,899	-44.6		31	10,578	-50.7		23	10,043	-54.1		30	10,138	-54.3		30	10,759	-48.1	
200	23	11,525	-54.7		23	12,103	-57.6		30	12,355	-56.1		31	12,007	-57.6		17	11,453	-54.4		30	11,564	-54.5		30	12,195	-58.5	
175	23	12,378	-54.9		22	12,938	-61.6		30	13,190	-62.6		30	12,841	-59.1		10	12,294	-55.3		30	12,418	-54.3		30	13,024	-63.3	
150	21	13,361	-54.8		21	13,881	-64.5		30	14,125	-69.1		28	13,810	-61.8		8	13,254	-54.3		30	13,404	-54.9		29	13,960	-67.1	
125	14	14,529	-54.6		21	14,985	-67.9		29	15,200	-74.8		26	14,938	-64.2		6	14,370	-55.4		29	14,556	-55.9		28	15,061	-70.2	
100	11	15,965	-55.3		20	16,314	-70.0		26	16,480	-79.6		25	16,297	-66.6						24	15,951	-56.7		28	16,377	-72.8	
80	6	17,411	-55.7		19	17,639	-70.2		21	17,746	-78.0		22	17,647	-65.9						23	17,372	-57.0		24	17,683	-72.5	
60					18	19,364	-65.4		19	19,419	-69.0		18	19,409	-63.1						18	19,210	-57.3		22	19,384	-66.5	
50					18	20,479	-62.9		18	20,526	-63.1		18	20,535	-61.3						16	20,365	-57.9		22	20,497	-62.7	
40					17	21,861	-59.3		18	21,912	-58.5		17	21,919	-59.6						10	21,817	-56.9		19	21,898	-56.5	
30					16	23,677	-55.3		15	23,738	-53.9		12	23,737	-57.4										17	23,741	-52.8	
20					10	26,295	-49.9		6	26,379	-49.3														11	26,380	-49.5	

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Standard pressure surface (mb)	TATOOSH ISLAND, WASH. (1006 MB.)				TOPEKA, KANS. (990 MB.)				VERACRUZ, MEXICO (1015 MB.)				WASHINGTON, D. C. (1012 MB.)				YAKUTAT, ALASKA (1007 MB.)				YUMA, ARIZ. (1004 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	31	5.0	82	31	269	- 1.6	64	31	13	23.3	80	31	88	- 0.7	63	31	12	- 5.7	81	28	105	17.0	39
1,000--	31	77			31	184			31	145	22.2	80	31	184	.6	59	31	63			28	143	17.2	39
950----	31	501	3.2	71	31	598	- 2.2	59	31	588	19.6	78	31	595	- 1.0	60	31	473	- 3.4	64	28	583	16.0	38
900----	31	931	1.0	74	31	1,023	- 1.5	59	31	1,055	17.3	75	31	1,023	- 3.2	59	31	895	- 5.8	63	28	1,037	13.4	39
850----	31	1,389	- 1.7	71	31	1,479	- .4	56	31	1,542	14.9	68	31	1,475	- 4.1	52	31	1,341	- 8.5	65	28	1,515	11.0	36
800----	31	1,869	- 3.9	62	31	1,964	- .5	53	31	2,053	12.2	66	31	1,952	- 4.5	43	31	1,808	-10.9	61	28	2,019	8.4	35
750----	31	2,380	- 6.6	58	31	2,487	- 2.0	47	31	2,600	9.7	56	31	2,466	- 5.8	38	31	2,309	-13.5	56	28	2,556	5.7	31
700----	31	2,912	-10.0	52	31	3,025	- 4.6	42	31	3,163	6.8	54	31	2,998	- 7.3	36	31	2,823	-16.4	50	28	3,110	2.6	30
650----	31	3,484	-13.5	47	31	3,612	- 7.5	40	31	3,775	3.5	50	31	3,576	- 9.9	34	31	3,384	-19.7	47	28	3,710	- .7	
600----	30	4,090	-17.2	45	31	4,224	-11.2	40	31	4,415	.2	44	31	4,186	-13.5		31	3,967	-23.2	46	28	4,341	- 4.4	30
550----	30	4,735	-21.5	43	30	4,888	-15.3	39	28	5,113	- 3.9	40	31	4,847	-17.5	35	31	4,602	-27.4	47	28	5,023	- 8.9	32
500----	30	5,432	-26.4	43	30	5,598	-19.8		28	5,854	- 8.2		31	5,549	-22.2	40	31	5,278	-31.9	48	28	5,752	-13.9	36
450----	30	6,189	-32.2	44	29	6,388	-25.0		28	6,678	-14.0		31	6,321	-27.6	44	31	6,024	-36.8	50	28	6,547	-19.4	38
400----	30	7,006	-38.0		29	7,223	-31.2		27	7,549	-20.5		31	7,152	-33.5	42	31	6,820	-42.0		27	7,405	-26.1	38
350----	30	7,914	-43.6		29	8,154	-38.3		26	8,522	-27.9		31	8,075	-39.8		31	7,713	-47.2		27	8,356	-33.8	
300----	30	8,935	-49.9		28	9,202	-45.8		24	9,610	-36.6		31	9,112	-46.4		31	8,720	-52.2		27	9,418	-42.2	
250----	29	10,125	-54.4		28	10,393	-53.5		23	10,842	-46.9		31	10,302	-53.1		30	9,875	-55.3		27	10,625	-51.3	
200----	28	11,557	-54.4		27	11,804	-58.0		21	12,283	-57.8		31	11,723	-56.6		30	11,303	-53.1		24	12,050	-58.5	
175----	26	12,423	-53.0		26	12,644	-59.1		20	13,115	-62.9		31	12,567	-57.9		27	12,156	-52.5		24	12,883	-61.3	
150----	25	13,426	-53.5		26	13,605	-60.6		20	14,053	-67.4		31	13,533	-59.3		22	13,155	-52.9		21	13,839	-64.1	
125----	24	14,599	-54.9		24	14,747	-61.4		15	15,140	-72.1		29	14,662	-60.9		17	14,307	-52.3		13	14,960	-66.8	
100----	22	16,005	-55.8		22	16,129	-62.7		11	16,436	-76.3		29	16,043	-61.8		14	15,771	-51.3					
80-----	20	17,448	-55.4		21	17,498	-62.6		6	17,723	-75.2		27	17,419	-61.3		13	17,215	-52.3					
60-----	19	19,281	-55.0		16	19,279	-61.1						24	19,194	-60.7		10	19,044	-53.7					
50-----	17	20,469	-55.9		14	20,414	-59.5						23	20,323	-59.5		9	20,228	-53.9					
40-----	14	21,902	-56.4		10	21,800	-60.2						23	21,724	-57.1		9	21,652	-56.1					
30-----	10	23,706	-57.1		7	23,589	-57.8						21	23,552	-52.9									
20-----	5	26,234	-60.3										12	26,205	-47.5									

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T., "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20 *Air Force Data for August 1955

Standard pressure surface (mb.)	DENVER, COLO. (836 MB.)				FT. WORTH, TEXAS (991 MB.)				OGDEN, UTAH (855 MB.)				RANTOUL, ILL. (988 MB.)				ROME, N. Y. (997 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	29	1,661	20.6	57	31	178	29.0	56	31	1,450	25.3	36	31	227	22.7	72	31	146	20.5	71
1,000--	29	75			31	99			31	43			31	121			31	122		
950----	29	541			31	560	27.2	57	31	509			31	583	24.4	59	31	573	20.7	66
900----	29	1,019			31	1,033	24.0	61	31	995			31	1,045	21.2	59	31	1,034	18.1	70
850----	29	1,519			31	1,531	20.2	65	31	1,499	25.7	34	31	1,537	17.5	60	31	1,522	14.8	72
800----	29	2,046	20.9	48	31	2,051	16.4	68	31	2,030	22.9	33	31	2,053	14.3	51	31	2,033	11.9	66
750----	29	2,607	17.4	49	31	2,602	12.9	63	31	2,592	18.2	37	31	2,602	11.9	42	31	2,577	9.2	56
700----	29	3,187	12.9	56	31	3,174	9.4	58	31	3,173	13.3	41	31	3,170	8.8	45	31	3,140	6.1	55
650----	29	3,810	8.2	59	31	3,790	6.0	57	31	3,790	8.0	47	31	3,787	5.3	44	31	3,747	2.9	52
600----	29	4,462	3.3	67	31	4,438	2.2	54	31	4,445	2.5	53	31	4,430	1.7	38	31	4,388	- .6	48
550----	28	5,167	- 1.9	74	31	5,137	- 1.6	49	31	5,141	- 2.6	50	31	5,130	- 2.5	38	31	5,079	- 4.1	38
500----	28	5,915	- 6.6	70	31	5,889	- 5.6	42	31	5,890	- 7.6	47	31	5,876	- 7.0	37	31	5,824	- 8.6	38
450----	26	6,745	-11.3	58	31	6,718	-10.6	35	31	6,712	-13.0	40	31	6,699	-11.8	33	31	6,643	-13.4	
400----	26	7,627	-17.5	46	31	7,605	-16.7	30	31	7,590	-18.7	31	31	7,583	-17.9	34	31	7,520	-19.5	34
350----	26	8,613	-24.1		31	8,592	-24.0		31	8,571	-25.6		31	8,566	-25.0		31	8,499	-26.2	
300----	26	9,717	-32.4		31	9,698	-32.1		31	9,670	-33.5		31	9,668	-33.0		31	9,595	-34.4	
250----	25	10,974	-42.1		31	10,958	-41.9		31	10,924	-42.7		31	10,926	-41.8		31	10,845	-43.5	
200----	25	12,445	-53.3		31	12,430	-53.5		31	12,393	-53.1		31	12,403	-52.1		31	12,314	-53.3	
175----	25	13,293	-58.9		31	13,275	-59.8		31	13,243	-58.2		31	13,256	-57.8		31	13,164	-57.9	
150----	25	14,245	-64.7		31	14,223	-65.7		31	14,200	-63.6		31	14,213	-63.5		31	14,125	-62.4	
125----	25	15,346	-68.5		30	15,317	-70.4		30	15,306	-67.2		31	15,319	-67.6		31	15,244	-64.5	
100----	19	16,683	-68.6		24	16,635	-70.2		24	16,652	-66.2		30	16,665	-66.4		27	16,605	-64.1	
80-----	13	18,030	-64.1		23	17,969	-66.9		22	18,013	-62.7		28	18,021	-63.5		24	17,982	-61.8	
60-----	11	19,811	-59.4		21	19,727	-61.8		18	19,795	-58.7		28	19,802	-59.6		22	19,777	-58.0	
50-----	10	20,957	-57.3		21	20,861	-59.4		17	20,942	-57.0		28	20,947	-57.2		22	20,931	-55.8	
40-----	9	22,377	-54.4		20	22,264	-56.1		15	22,364	-54.3		27	22,365	-54.8		21	22,360	-53.9	
30-----	8	24,235	-50.2		16	24,103	-52.3		12	24,213	-51.0		26	24,217	-51.3		18	24,213	-51.3	
20-----	7	26,896	-47.7		11	26,747	-48.4		7	26,877	-48.1		17	26,872	-47.0		14	26,871	-47.5	
15-----					9	28,640	-46.5						10	28,786	-45.4		6	28,752	-45.3	

* September data for the above Air Force stations will be included in the January 1956 issue of this publication.

Note: All observations scheduled at 0300, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Average monthly resultant winds

Table 21

DECEMBER 1955

Altitude (meters) m.s.l.	Abilene, Tex. (534 m.)			1/ Albany, N. Y. (86 m.)			Albuquerque, N. Mex. (1,627 m.)			Athens, Ga. (246 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. D. (505 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			1/ Buffalo, N. Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	31	255	2.5	31	272	4.1	31	261	0.9	29	295	0.6	26	256	3.9	29	241	0.3	29	123	2.5	30	116	1.7	31	251	3.5	30	300	1.3	30	342	0.9	30	242	1.7
500	--	---	--	31	285	6.8	--	---	----	28	276	1.1		-	-	--	---	----	--	---	----	27	175	.7	31	260	6.4	30	285	3.2	30	310	1.3	30	235	2.8
1,000	30	254	4.3	31	296	9.6	--		-	25	283	2.6	--	---	-	28	265	3.6	29	133	2.8	25	203	1.3	31	266	9.0	18	304	6.2	30	268	3.2	25	257	3.8
1,500	30	268	7.1	31	299	11.1		---	- --	23	278	5.5	26	244	8.2	26	286	4.5	28	195	3.6	19	263	2.1	31	275	10.3	12	310	7.8	27	278	6.6	24	276	6.6
2,000	28	271	10.4	31	301	13.4	31	268	2.4	21	283	8.8	26	268	8.3	24	272	6.1	28	231	5.2	18	252	2.5	30	282	11.4				25	277	8.8	24	277	9.5
2,500	28	272	11.8	31	296	15.2	31	278	5.3	18	279	11.3	25	274	9.9	22	275	6.7	22	237	7.1	16	264	3.7	30	285	14.1				24	282	10.8	23	287	11.0
3,000	26	273	12.5	31	290	17.1	31	282	8.4	18	278	12.7	24	279	11.5	21	281	7.9	15	242	7.1	16	268	4.1	30	287	15.1				21	278	12.7	20	289	12.3
4,000	26	277	14.9	30	289	20.0	28	285	15.2	18	282	16.2	20	283	11.8	18	289	10.2	10	279	7.8	13	272	5.2	29	295	20.2				14	279	15.4	12	289	15.8
5,000	23	278	15.3	30	287	24.2	27	282	18.2	12	277	19.8	15	285	10.0	18	288	13.2							29	297	25.2				11	277	18.1			
6,000	22	275	18.2	29	286	29.6	25	281	22.2				12	285	9.6	14	298	15.7							27	292	27.7				11	280	21.1			
8,000	15	283	20.6	29	283	36.9	19	281	23.9																26	290	34.4									
10,000				28	283	44.1	12	280	25.7																22	278	38.8									
12,000				26	279	43.2	11	293	35.7																17	275	33.1									
14,000				17	277	29.0																			13	279	30.5									
16,000				12	284	27.2																			10	274	22.8									

	El Paso, Tex. (1,198 m.)			Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Little Rock, Ark. (88 m.)			Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)		
Surface	31	254	2.7	31	168	2.8	31	192	1.4	29	271	2.2	29	323	1.4	30	321	0.9	26	15	2.0	29	110	1.0	25	263	0.8	30	64	1.7	29	11	1.6	29	297	0.5
500	--	---	----	--	--	----	--	---	----	29	272	3.5	29	303	2.2	--	---	----	26	323	1.2	29	179	.7	25	246	1.0	29	74	2.1	29	24	1.4	29	221	.6
1,000	--	---	----	--	---	- --	--	- -	----	27	288	5.4	29	284	4.3	30	252	3.4	22	249	3.9	24	240	2.6	23	187	3.5	26	357	.4	23	299	3.9	28	273	2.2
1,500	31	260	3.6	--	---	----	31	180	1.5	22	302	8.1	29	288	7.6	26	264	7.5	21	255	5.8	21	255	4.7	17	210	4.8	23	274	1.8	18	278	7.8	24	281	5.3
2,000	31	265	4.8	31	169	3.1	31	195	2.6	20	302	10.0	29	288	10.7	25	265	8.5	17	272	7.3	19	276	7.4	12	204	5.3	19	254	2.6	15	285	8.8	22	292	7.8
2,500	30	269	8.0	30	210	4.1	31	215	4.8	16	306	11.4	29	286	13.1	22	261	8.5	15	283	9.5	18	277	10.0	10	204	6.3	18	257	4.7	14	281	11.6	22	282	10.7
3,000	30	271	11.7	24	244	5.1	29	242	7.9	15	308	13.8	28	282	16.0	20	263	9.7	15	280	12.0	15	280	12.0				16	279	6.1	11	279	12.3	21	284	12.5
4,000	28	276	12.2	18	263	12.1	22	266	11.2	13	309	15.5	27	280	20.4	16	266	9.4	14	278	14.4	13	280	14.6				10	279	8.0				18	285	16.0
5,000	28	270	13.8	15	281	14.6	17	275	16.7				21	281	22.8	10	293	7.4	11	285	16.8	11	283	17.4										15	288	21.2
6,000	27	270	15.5	13	280	17.3	15	273	19.1				19	285	27.4																			12	283	21.5
8,000	25	272	17.3										11	273	35.4																					
10,000	22	280	17.9																																	
12,000	15	282	21.8																																	
14,000	11	281	22.3																																	

	2/ Oakland, Calif. (8 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			St. Louis, Mo. (181 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			1/ Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			3/ Topeka, Kans. (269 m.)			1/ Washington, D. C. (88 m.)		
Surface	30	182	2.4	30	316	0.8	31	122	0.6	29	14	1.2	27	285	1.8	29	216	0.6	31	291	0.1	30	285	2.7	31	261	1.0	23	190	1.9	31	159	0.8	31	294	2.3
500	30	192	4.0	30	301	.8	31	122	.9	--	---	----	27	279	2.4	29	218	2.1	31	232	.2	29	310	2.3	31	276	1.7	--	---	----	31	205	1.3	31	281	5.2
1,000	30	219	5.0	27	275	3.2	31	149	1.4	29	1	1.1	24	279	5.0	29	234	4.2	30	249	1.8	27	307	2.4	31	278	4.4	23	192	3.6	31	225	4.0	31	286	7.5
1,500	30	229	6.1	26	279	5.6	31	188	1.9	28	300	4.9	23	296	6.6	27	274	6.3	30	254	3.8	23	304	3.9	31	291	6.2	20	214	6.3	31	252	7.1	29	296	10.2
2,000	30	235	7.7	23	285	8.7	31	240	2.9	26	299	8.7	23	297	8.5	25	279	9.2	26	254	6.4	20	303	5.3	31	285	7.0	16	225	6.4	31	257	8.3	29	292	11.8
2,500	30	243	8.9	21	281	11.5	29	252	3.9	23	295	12.4	21	294	10.6	24	290	10.8	24	260	8.6	20	296	6.4	31	295	10.1	13	237	4.3	31	266	10.2	30	292	15.3
3,000	30	252	12.0	20	282	13.6	29	257	6.5	22	291	14.6	19	301	11.5	23	291	12.8	23	265	9.8	18	282	7.7	31	299	12.2	11	251	4.8	31	268	12.3	30	288	17.2
4,000	30	259	15.4	17	287	16.6	25	267	10.4	19	293	15.1	18	305	15.0	19	293	15.8	23	263	11.4	17	263	11.0	31	294	15.7	10	307	6.4	31	272	17.0	28	294	21.2
5,000	30	262	19.2	16	284	18.6	24	264	12.7	17	293	16.9	14	307	16.1	15	294	20.0	22	270	12.2	15	258	13.6	31	297	19.4				31	276	19.6	27	288	24.8
6,000	30	262	21.2	13	285	19.7	22	273	15.3	14	291	19.6	13	309	18.4	13	304	21.1	21	265	12.7	13	254	15.2	30	296	22.9				31	274	21.6	26	283	29.2
8,000	29	268	27.5				15	283	16.7				10	307	20.5				17	286	13.1				28	299	28.8				30	278	28.7	23	284	38.3
10,000	29	271	31.2																12	280	17.0				20	299	28.3				29	279	35.1	17	276	45.9
12,000	28	271	31.8																						19	291	31.2				24	279	35.3	11	281	44.8
14,000	24	268	25.5																						15	294	27.6				22	276	32.2			
16,000	23	266	15.1																												18	282	22.6			

1/ Rawin Data

2/ Rawin Data (Cont'd.)

18,000 m., 23 obs., 271 dir., 9.3 speed
20,000 m., 23 obs., 288 dir., 5.2 speed
22,000 m., 17 obs., 303 dir., 4.6 speed
24,000 m., 17 obs., 309 dir., 5.2 speed
26,000 m., 11 obs., 279 dir., 10.1 speed

3/ Rawin Data (Cont'd.)

18,000 m., 15 obs., 284 dir., 15.8 speed
20,000 m., 13 obs., 280 dir., 13.0 speed
22,000 m., 10 obs., 285 dir., 10.9 speed

These free air resultant winds are based on pilot balloon observations made near 2100 G.C.T.; directions in degrees from north (N - 360°, E - 90°, S = 180°, W = 270°); speeds in meters per second.

RAWIN DATA

Average monthly resultant winds

Table 22

DECEMBER 1955

Altitude (meters) m.s.l.	Albany, N. Y. (86 m.)			Albuquerque, N. Mex. (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Athens, Ga. (246 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface----------	31	278	2.8	31	49	1.3	31	25	1.8	30	56	2.7	31	33	1.3	31	85	1.3	31	21	0.7	31	42	0.5	30	269	2.6	31	47	2.6	31	276	2.9	31	346	1.6
500--------------	30	292	6.8	--	---	----	30	13	6.0	30	102	2.9	31	88	.8	28	50	2.8	--	---	----	29	144	4.0	28	266	5.6	31	76	2.2	31	295	6.2	31	357	1.4
1,000------------	29	304	10.6	--	---	----	29	26	4.8	29	137	3.1	31	257	2.0	26	51	2.8	31	287	3.1	29	169	4.2	28	271	8.0	29	198	.9	31	315	8.0	30	256	3.2
1,500------------	29	303	13.4	--	---	----	26	352	3.9	28	164	2.4	30	271	4.5	26	37	2.3	31	288	4.6	29	210	2.4	28	275	9.4	29	245	2.3	31	315	7.6	28	260	6.8
2,000------------	29	299	13.9	30	291	2.6	26	342	3.0	28	221	2.3	29	272	7.4	28	343	2.2	30	288	5.7	29	252	2.6	30	278	10.4	28	261	1.5	31	308	7.1	28	266	9.1
2,500------------	29	295	14.4	30	271	5.7	26	268	2.6	28	259	3.3	29	270	10.4	27	317	4.5	28	285	7.4	29	264	3.7	31	283	12.7	27	265	6.3	31	305	7.8	28	268	10.9
3,000------------	29	291	17.0	30	273	8.0	26	266	4.5	28	258	4.6	28	267	12.9	26	299	5.7	28	288	9.5	29	265	4.3	30	288	15.3	27	262	7.8	31	298	8.5	29	267	12.8
4,000------------	29	288	21.0	30	281	12.3	24	252	9.1	26	256	6.7	27	270	16.1	26	304	7.9	28	283	12.8	30	258	6.3	29	292	18.6	25	266	10.2	30	300	11.1	30	268	15.9
5,000------------	29	281	24.1	28	284	16.2	18	258	8.6	26	258	8.6	25	272	21.2	22	308	8.5	25	287	14.5	31	271	7.0	29	290	23.0	24	267	13.1	30	290	12.4	29	274	19.0
6,000------------	29	284	29.5	22	274	17.5	14	263	8.5	24	267	9.5	25	271	25.7	21	309	9.9	22	285	13.4	30	262	8.7	28	287	26.4	22	268	14.4	30	291	13.3	24	277	21.6
8,000------------	27	287	39.3	14	276	15.7	15	286	16.0	17	254	10.4	24	273	31.8	19	315	11.6	15	289	12.7	28	272	12.5	20	277	30.3	16	262	18.7	29	285	17.3	22	276	27.0
10,000-----------	27	284	45.8				11	290	12.4	15	277	12.8	21	274	38.7	14	332	11.4	12	284	12.8	23	259	15.4	16	271	39.8	10	280	18.2	20	283	17.5	13	289	30.1
12,000-----------	26	281	44.5							13	295	12.3	16	270	45.5	13	287	11.1	12	285	17.4	18	264	12.0	14	267	33.5				25	275	18.6			
14,000-----------	24	275	31.6							11	294	16.5	16	270	40.7	10	271	12.7				14	257	18.1	11	266	26.5				23	273	19.8			
16,000-----------	19	273	21.2																												22	270	16.8			
18,000-----------	18	271	18.0																												20	269	15.9			
20,000-----------	10	270	8.3																												17	258	12.5			
22,000-----------																															13	257	16.7			

Altitude (meters) m.s.l.	Cold Bay, Alaska (27 m.)			Columbia, Mo. (237 m.)			El Paso, Tex. (1,195 m.)			Fairbanks, Alaska (135 m.)			Ft. Huachuca, Ariz. (1,428 m.)			Ft. Worth, Tex. (178 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			* King Salmon, Alaska (15 m.)			Little Rock, Ark. (80 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface----------	23	328	1.9	31	103	0.6	31	270	2.3	31	22	1.0	31	248	.8	29	12	0.3	30	109	1.8	31	296	0.5	31	320	3.0	31	140	0.8	18	351	2.9	31	34	1.3
500--------------	18	327	6.2	31	203	1.9	--	---	----	27	51	1.6	--	---	----	29	229	1.0	--	---	----	31	286	2.2	31	322	4.7	31	207	1.4	18	351	6.5	29	204	.7
1,000------------	17	332	8.1	31	240	4.4	--	---	---	27	68	1.3	-	---	---	29	250	4.6	--	---	----	31	289	4.7	31	290	5.9	31	268	2.6	18	352	8.5	29	245	2.9
1,500------------	17	333	10.1	31	258	7.0	31	261	3.5	28	5	1.2	31	248	1.8	29	273	5.9	29	115	1.8	31	291	6.4	31	272	8.8	31	286	4.7	18	342	8.8	30	267	6.0
2,000------------	17	326	11.5	31	272	9.0	31	262	5.7	28	331	1.5	31	237	2.4	29	280	7.9	29	177	2.7	30	286	9.3	30	271	11.1	31	294	5.9	18	341	8.9	30	277	7.7
2,500------------	16	316	9.0	31	276	10.2	31	268	7.3	27	295	2.3	31	246	2.5	29	278	9.9	29	219	5.4	30	282	11.0	30	273	13.0	31	298	6.8	18	333	7.0	30	281	10.2
3,000------------	16	297	4.8	31	275	12.2	31	269	8.8	28	287	4.6	31	249	4.0	29	279	11.1	29	247	8.5	30	277	13.6	29	276	15.4	31	301	8.3	18	328	6.4	30	277	12.3
4,000------------	17	304	6.7	31	282	15.8	31	267	12.4	27	288	6.1	31	264	9.0	28	277	12.9	30	269	12.9	30	274	17.2	26	279	20.2	31	297	10.7	18	322	8.1	27	282	15.1
5,000------------	14	309	8.0	31	280	18.2	27	273	12.8	23	290	5.1	28	275	11.4	27	278	15.9	27	280	15.7	30	276	21.9	22	282	23.7	31	297	13.1	18	311	10.2	25	285	19.2
6,000------------	12	251	5.0	31	275	21.7	22	281	14.3	22	263	7.5	27	271	13.6	27	279	19.3	22	290	20.3	29	273	24.7	17	280	25.6	30	292	16.6	18	295	11.9	21	282	21.9
8,000------------	11	207	11.3	29	281	30.7	15	286	14.8	18	298	11.9	23	270	16.8	27	279	23.1	13	288	23.6	18	284	26.1				28	289	23.3	17	306	19.2	20	289	25.1
10,000-----------	10	218	5.2	28	279	33.9	12	301	20.0	10	267	11.0	20	271	18.6	26	270	25.9				11	293	28.2				28	288	27.7	14	329	25.8	14	289	25.0
12,000-----------				27	280	37.4				11	252	13.0	13	268	13.7	25	278	25.8										27	291	27.4	12	317	24.8			
14,000-----------				24	280	32.6				10	261	16.4				21	275	25.8										22	291	26.7	10	317	18.1			
16,000-----------				22	283	24.7										18	275	24.4										21	293	23.6						
18,000-----------				19	294	16.2										16	276	17.0										19	293	20.3						
20,000-----------				14	295	8.6										11	271	13.2										13	302	19.6						
22,000-----------				10	299	8.7										11	277	6.0																		
24,000-----------																11	287	6.2																		

Altitude (meters) m.s.l.	Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)			Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)			Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St Cloud, Minn. (318 m.)			St Paul Is. Alaska (10 m.)			San Antonio, Tex. (242 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface----------	31	152	1.3	31	27	1.8	31	203	1.1	31	316	4.1	30	271	0.4	31	73	2.4	30	151	1.8	31	123	1.3	31	347	1.5	31	266	0.5	27	347	1.2	31	18	1.5
500--------------	27	165	2.1	31	71	2.8	--	---	----	30	293	9.0	30	190	2.1	27	336	.9	30	188	4.4	31	157	1.8				30	247	1.0	26	318	1.6	31	92	1.8
1,000------------	27	182	5.1	31	90	2.6	31	222	2.1	30	294	8.8	30	232	4.7	27	274	2.5	30	213	5.5	31	240	3.4	31	347	1.5	29	271	3.2	26	296	2.4	31	178	2.4
1,500------------	29	207	7.1	31	130	.7	31	253	5.3	29	288	9.2	30	259	6.6	28	299	4.3	30	235	6.4	31	267	5.6	31	300	4.7	29	270	5.1	26	292	3.5	31	236	3.9
2,000------------	29	225	9.3	31	240	1.7	31	268	7.2	29	285	11.0	30	272	8.8	27	295	4.2	30	247	8.3	31	275	7.1	31	297	5.8	28	280	6.4	26	290	4.5	31	259	5.1
2,500------------	29	235	11.5	31	260	3.2	31	276	7.7	27	282	13.2	29	275	10.1	26	287	5.3	30	250	9.3	31	278	8.3	31	293	8.5	27	282	7.9	26	289	5.4	30	276	7.3
3,000------------	27	241	10.6	31	272	5.1	31	278	9.2	26	285	15.3	29	275	11.7	26	294	6.7	30	254	11.4	30	274	10.7	31	284	11.5	26	287	9.6	24	291	5.3	30	279	8.9
4,000------------	24	261	10.8	31	271	6.4	31	284	11.0	21	290	18.3	27	282	15.8	26	289	9.1	28	262	14.3	29	276	14.5	31	282	13.5	23	292	11.0	22	279	7.2	29	272	10.9
5,000------------	20	265	9.0	31	272	8.8	30	281	13.9	16	292	20.5	25	278	18.7	24	294	9.1	27	266	17.8	27	283	19.5	31	286	15.3	23	291	13.3	20	266	9.4	27	275	12.3
6,000------------	17	268	8.5	31	274	10.4	23	280	15.3	10	284	21.2	20	277	21.9	20	289	9.1	27	267	20.4	27	280	20.7	31	284	18.2	22	286	14.5	19	257	8.6	25	275	13.3
8,000------------	12	263	14.3	31	270	16.2	26	270	17.3				14	281	22.7	16	264	9.7	27	272	26.5	21	292	21.4	31	281	24.2	19	293	17.3	15	268	14.2	23	276	15.6
10,000-----------				31	267	23.0	12	283	14.7				10	280	25.7	13	235	12.8	27	276	31.1	15	297	22.1	31	281	28.8	18	283	19.9	12	260	12.4	19	277	18.9
12,000-----------				27	260	27.9	16	279	17.8							11	247	13.2	27	273	31.4				28	280	31.3	13	274	17.9				16	270	18.3
14,000-----------				19	264	30.0	11	278	21.3										27	272	23.7				15	285	24.9	12	276	18.2				14	271	20.8
16,000-----------				16	278	23.8													24	280	15.9							10	276	16.2						
18,000-----------				13	287	14.5													23	284	9.0							10	287	12.0						
20,000-----------				10	309	6.7													18	322	4.4							11	278	11.9						
22,000-----------																			13	23	3.8															

Altitude (meters) m.s.l.	San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (726 m.)			Tatoosh Is., Wash. (31 m.)			Topeka, Kans. (269 m.)			Washington, D. C. (88 m.)			Yakutat, Alaska (12 m.)			Yuma, Ariz. (105 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface----------	31	101	2.0	31	145	0.6	31	55	0.9	31	199	2.2	31	129	4.2	31	25	1.2	31	289	1.9	27	103	3.3	27	165	0.6
500--------------	31	84	7.9	31	153	1.1	31	348	.5	--	---	----	29	163	5.8	31	24	.2	31	292	5.6	23	112	5.4	26	251	1.2
1,000------------	31	87	7.2	31	216	1.2	31	281	2.4	31	197	5.3	29	200	5.9	31	237	2.8	31	301	7.9	22	94	3.7	26	252	1.4
1,500------------	31	87	5.8	31	279	3.6	31	284	5.0	31	219	8.2	29	215	6.6	31	266	6.1	30	293	8.9	21	88	1.0	26	260	2.3
2,000------------	31	85	4.8	31	278	6.7	31	288	6.3	27	234	7.0	30	233	8.2	31	276	8.1	29	292	11.3	22	51	1.2	26	268	3.3
2,500------------	30	79	3.9	31	275	8.9	31	291	8.6	27	253	8.3	30	237	9.2	31	283	10.5	28	283	13.8	24	360	.4	26	270	4.9
3,000------------	30	73	2.3	30	275	11.0	31	291	11.2	27	265	8.3	30	246	10.0	31	281	11.7	25	277	16.0	24	313	3.3	26	271	7.4
4,000------------	30	89	1.5	28	274	14.3	31	293	14.4	27	269	10.0	30	251	10.2	31	282	15.0	28	282	20.1	22	320	6.6	26	255	10.3
5,000------------	30	131	.6	23	270	16.8	30	300	17.2	27	272	12.8	30	255	12.8	30	280	18.8	25	277	23.3	23	303	7.9	27	261	12.4
6,000------------	30	163	.8	18	270	17.4	28	299	19.7	26	275	14.8	30	258	14.7	28	284	21.5	24	281	27.0	23	305	11.9	27	263	14.8
8,000------------	29	256	4.1	12	290	17.8	26	297	26.4	21	278	12.3	30	257	18.5	28	286	28.4	20	285	34.5	18	313	13.9	26	261	17.6
10,000-----------	28	276	11.9				16	301	30.8	19	271	20.4	23	269	17.6	27	284	34.5	15	284	42.4	14	330	15.6	26	266	21.0
12,000-----------	28	273	16.9				10	282	33.6	17	286	21.4	23	281	22.1	25	283	38.2	12	286	45.2	10	314	16.0	23	261	22.8
14,000-----------	28	276	18.5							16	287	20.5	18	292	20.6	24	279	30.4	11	283	35.0				20	262	19.4
16,000-----------	22	265	7.9							14	290	19.6	16	293	14.8	18	280	24.8	12	279	27.8						
18,000-----------	18	294	1.2							15	290	16.1	16	295	12.3	14	286	15.3	11	279	21.0						
20,000-----------	16	185	1.9							12	297	12.2	15	309	10.2	12	285	11.7	#								
22,000-----------	16	204	1.0										11	332	9.6				#	--	--						
24,000-----------	13	81	2.9																10	275	21.4						

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note following Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

* Observations began December 13, 1955.

# Less than 10 observations.

RAWIN DATA

Average monthly resultant winds

Table 22 *Air Force Data for August 1955

Altitude (meters) m.s l	Denver, Colo. (1,661 m.)			Ft. Worth, Tex. (178 m.)			Ogden, Utah (1,450 m.)			Rantoul, Ill. (227 m.)			Rome, N. Y. (146 m.)		
	No of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	30	168	2.3	31	158	1.1	31	54	1.2	31	135	0.2	31	85	0.7
500	-	---	----	31	144	6.4	--	---	---	30	134	1.0	31	110	.5
1,000	-	---	----	31	142	5.6	--	--	----	30	144	.8	31	259	2.5
1,500			---	31	127	3.2	31	58	1.1	30	206	.6	31	263	4.2
2,000	30	206	2.5	31	84	1.6	31	163	.5	30	243	.5	31	258	5.1
2,500	30	188	2.4	31	40	2.0	31	230	1.2	31	292	.2	31	276	5.3
3,000	30	174	2.2	30	35	2.7	31	243	1.9	31	335	.6	31	281	5.7
4,000	30	201	1.4	29	38	3.0	31	238	3.0	31	311	2.6	31	283	7.9
5,000	28	285	2.3	29	39	3.1	31	261	4.8	31	318	3.2	31	273	9.0
6,000	28	272	3.9	29	51	3.7	31	261	7.0	31	306	4.2	31	284	9.9
8,000	27	274	5.6	29	18	3.2	31	247	11.9	31	294	5.8	31	284	14.5
10,000	26	267	10.1	29	62	1.6	31	244	17.8	31	285	8.7	31	281	18.0
12,000	25	272	10.8	28	103	1.8	31	245	21.0	31	277	10.4	31	278	22.1
14,000	23	270	9.7	27	86	2.0	31	244	18.0	31	284	9.6	31	279	20.9
16,000	19	267	6.4	22	69	5.9	25	237	12.0	30	302	5.0	31	292	13.3
18,000	11	265	2.8	20	86	8.2	21	233	1.7	28	38	1.5	23	302	5.7
20,000	10	93	4.7	18	91	11.3	17	92	3.9	28	84	4.8	22	42	2.1
22,000				18	90	14.9	15	84	7.4	27	80	7.3	21	76	4.9
24,000				11	94	18.0	12	94	7.9	26	90	9.9	17	91	7.5
26,000				11	92	18.1				17	95	10.0	16	98	9.0
28,000										12	88	9.6			

* September data for the above Air Force stations will be included in the January 1956 issue of this publication

These free-air resultant winds are based on rawin observations made near 0300 G.C.T.; directions in degrees from north (N - 360°,E = 90°,S - 180°,W - 270°); speeds in meters per second.

Note: Resultants prepared from rawins at high altitudes are biased toward lower wind speeds. Values appearing in this table should therefore be used with caution when the number of observations missing is greater than three. See note followin Table 22 in the January 1950 issue of the CLIMATOLOGICAL DATA, National Summary.

CORRECTIONS

Month: September 1955

page 314: date

in upper right-hand corner date should be September 1955.

Month: October 1955

page 349: Juneau, Alaska

for period July through this month heating degree days should be 1986.

Month: November 1955

page 379: Medford, Oregon

for period July through this month heating degree days should be 1140.

page 379: Juneau, Alaska

for period July through this month heating degree days should be 3275.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun

Date	Sun's zenith distance								
	A.M				0.0°	P.M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	5.0	4.0	3.0	2.0	Noon	2.0	3.0	4.0	5.0
Dec.									
3------	----	----	-	1.33	1.35	1.32	1.20	1.10	1.01
4------	0.97	1.07	---	-	----		-		
5------	-	---	---	---	1.33	1.30	1.19	1.12	1.04
8------	1.04	1.12	1.23	1.33	1.33	-	1.17		
11-----	.99	1.06	1.19	1.31	---	1.29	1.17	1.06	.98
12**---	.97	K1.05	K1.13	K1.22	K1.21	----	-----	----	--
Averages	.99	1.08	1.18	1.30	1.31	1.30	1.18	1.09	1.01
	TABLE MOUNTAIN, CALIF.								
	Air mass								
	5.0	4.0	3.0	2.0	*0.75	2.0	3.0	4.0	5.0
Dec.									
8------	1.14	1.23	1.33	---	----	----	----	-	----
10-----	----	----	----	1.50	----	----	----	----	----
11-----	----	----	----	1.51	----	----	----	----	--
12-----	1.22	1.30	1.40	1.53	----	---	--	---	-
16-----	----	----	----	1.50	---	--	----	---	
20-----	----	----	----	1.51	----	---	---	----	-
Averages	1.18	1.26	1.36	1.51	----	---	----	---	--
	MADISON, WIS.								
	Air mass								
	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0
Dec.									
12-----	----	----	----	----	----	---	1.05	0.89	0.82
30-----	1.02	----	----	----	----	----	1.25	---	-
31-----	1.03	1.14	1.28	----	----	--	1.29	1.16	1.06
Averages	1.03	1.14	1.28	--	----	----	1.20	1.03	.94

Date	Sun's zenith distance								
	A.M				0.0°	P.M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	BLUE HILL, MASS.								
	Air mass								
	4.86	3.89	2.92	1.94	*0.97	1.94	2.92	3.89	4.86
Dec									
1	0.97	1.06	1.16	---	1.29	---	1.19	1.06	---
5	--	.86	.98	---	1.08	----	----	----	----
6		1.05	1.13	---	1.24	----	1.16	1.07	.95
8	----	.79	1.10	----	1.16	-	1.05	.86	.73
10--	-	-	--	-	----	-	----	1.02	.94
11---	.89	1.00	1.12	----	----	---	1.13	1.00	---
12--	.94	1.05	1.16	-	1.26	----	1.19	1.08	1.00
13	--	----	1.14	---	1.24	-	1.16	1.05	.97
16-	.82	.93	1.08	---	1.00	---	.91	.76	.65
17---	---	----	--	--	----	----	1.07	.87	.79
20 -	1.02	1.12	1.24	----	1.26	----	1.20	1.10	1.01
21---	1.07	1.16	1.27	---	---	-	----	---	----
23---	1.05	1.15	1.27	---	1.35	----	1.24	1.13	1.02
26 -	----	-	--	----	----	-	1.18	1.08	.96
27----	.77	.87	.98	----	1.11	--	--	.88	.66
28--	1.01	----	1.17	---	----	---	---	--	--
29-	1.02	1.08	----	----	----	----	----	----	----
Averages	.96	1.03	1.14	-	1.20	----	1.13	1.00	.88
	WASHINGTON, D. C (WBCO)								
	Air mass								
	4.96	3.97	2.98	1.99	*0.99	1.99	2.98	3.97	4.96
Dec									
1---	---	SK0.94	SK1.07	---		--	--		---
12 ---	----	SK1.00	SK1.08	-			---	----	--
16---	SK0.76	SK .83	SK1.01	---			-	----	----
27 -		-	SK1.21	---	1.31		---		----
Averages	.76	.92	1.09	--	1.31	--	---		

* Extrapolated
** Recorder inoperative after 12th
K Smoke
SK Slight smoke

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed in Table 30 appears in Monthly Weather Review, volume 75, No. 3, March 1947, p. 47.

SOLAR RADIATION DATA

DECEMBER 1955

Table 31a Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing north at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	43	7	42	42	52	48	29	38	43	45	44	45	44	22	44	41	43	40	41	45	47	28	56	43
Date	24	25	26	27	28	29	30	31	Avg															
Langleys	8	34	39	38	37	39	51	46	37															

Table 31b Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing east at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	40	2	157	141	96	149	30	88	73	161	169	165	160	21	150	129	59	53	64	170	181	47	188	109
Date	24	25	26	27	28	29	30	31	Avg.															
Langleys	8	97	166	145	164	46	161	91	110															

Table 31c Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing south at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	191	9	404	553	220	520	27	275	384	---	529	480	343	14	475	(371)	289	82	133	584	376	47	601	302
Date	24	25	26	27	28	29	30	31	Avg.															
Langleys	4	348	552	473	432	139	335	373	332															

Table 31d Daily totals and average daily totals by weeks of solar and sky radiation, plus the radiation reflected from the ground, as received on a vertical surface facing west at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	119	2	132	190	74	163	26	101	179	149	177	171	76	24	141	131	114	58	82	159	76	27	183	104
Date	24	25	26	27	28	29	30	31	Avg.															
Langleys	7	170	177	148	131	110	156	181	135															

Table 31e Daily totals and average daily totals by weeks of diffuse (sky) radiation as received on a horizontal surface at Blue Hill, Mass. during the month

								Avg								Avg								Avg
Date	3	4	5	6	7	8	9		10	11	12	13	14	15	16		17	18	19	20	21	22	23	
Langleys	75	9	72	45	101	59	55	59	68	48	42	50	78	42	56	55	75	87	102	47	74	52	39	68
Date	24	25	26	27	28	29	30	31	Avg.															
Langleys	13	60	40	56	49	96	78	64	57															

Note: Langley is the unit used to denote one gram calorie per square centimeter.

NET RADIATION

Table 32.--Net radiation in langleys per day (midnight to midnight) at Raleigh, N. C., during the month

DECEMBER 1955

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	*57	*33	67	*50	10	1	14	*0	*54	-3	24	-21	4	42	-2	-9	36	*-4	-27	27	**	8	60	24	2	6	14	8	42	-88	-5	14

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of alfalfa. The value represents the total incoming minus the total outgoing radiation of all wave lengths

* Estimated values owing to occurrence of rain during period While rain is falling, radiation is assumed to be zero.

** Radiometer inoperative

These data are of an experimental nature and are published as received from the North Carolina State College at Raleigh. The instrument with which they were measured has not been checked by the Weather Bureau.

SOLAR RADIATION DATA

Table 33.--Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

1955	Aklavik, MacKenzie	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Columbus, Ohio	Davis, Calif.	Dodge City, Kans.	E. Lansing, Mich.	E. Wareham, Mass.	Edmonton, Alberta	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grandby, Colo.	Grand Junction, Colo.	Greensboro, N. C.
Dec. 3------	1	360	15	345	162	114	68	---	122	128	90	279	572	98	294	74	177	63	137	310	12	68	107	259	201	6	343	292	216	163	208	199	165
Dec. 4------	*T	288	25	42	169	75	6	119	9	---	21	161	641	147	216	320	268	192	150	320	117	38	51	212	282	---	341	196	157	179	327	256	80
Dec. 5------	---	(319)	21	60	54	120	14	205	202	---	137	83	658	93	116	53	272	68	19	307	77	221	(93)	329	190	16	164	136	152	152	325	---	180
Dec. 6------	---	331	36	59	83	285	37	131	223	107	203	281	405	107	40	252	219	264	96	272	174	205	(94)	362	114	8	327	54	49	149	116	64	184
Dec. 7------	---	318	8	161	120	137	34	160	138	---	105	403	662	136	148	142	251	131	221	300	82	(197)	(63)	341	314	5	331	67	199	76	162	---	112
Dec. 8------	---	345	36	252	26	54	34	183	224	35	146	385	664	196	220	203	203	215	13	256	72	226	69	377	196	2	354	209	182	83	270	---	165
Dec. 9------	---	115	42	381	106	103	37	195	57	135	46	409	---	216	267	99	263	93	99	124	92	59	102	336	208	5	355	251	290	85	121	127	127
Averages------	---	(297)	26	186	103	127	33	165	139	101	107	286	600	142	186	163	236	146	105	270	89	(145)	(83)	317	215	7	316	172	178	127	218	161	145
Dec. 10------	---	289	47	375	8	311	12	175	178	170	151	274	664	81	328	128	140	262	203	253	124	211	85	316	302	6	191	108	344	139	325	259	171
Dec. 11------	---	(335)	88	223	9	291	---	174	200	74	187	30	621	178	318	115	215	214	192	282	146	254	76	354	257	4	(300)	(101)	191	129	105	184	200
Dec. 12------	---	322	90	232	99	281	12	87	219	56	191	377	608	69	93	112	234	56	98	275	31	264	49	358	241	3	336	58	57	111	306	246	192
Dec. 13------	---	328	92	312	173	297	11	131	210	220	171	400	619	69	---	206	162	209	36	102	117	(254)	103	340	265	3	(326)	66	171	86	304	269	206
Dec. 14------	---	301	65	194	81	302	15	125	176	173	121	404	525	84	---	54	81	126	14	276	104	191	(113)	331	217	2	150	89	269	78	301	219	203
Dec. 15------	---	325	85	331	8	157	7	199	42	142	36	216	530	93	289	250	248	229	42	318	202	---	(94)	351	261	4	344	39	280	134	308	244	160
Dec. 16------	---	325	84	391	42	315	4	154	199	76	175	389	624	86	325	244	165	238	62	280	143	170	69	352	---	2	336	81	369	127	131	161	207
Averages------	---	(318)	79	294	60	279	10	149	175	130	147	299	599	94	271	158	178	191	92	255	124	(224)	(84)	343	257	4	(283)	(78)	240	115	254	226	191
Dec. 17------	---	322	52	108	85	296	23	160	158	76	128	288	601	172	275	288	105	217	23	266	128	176	102	357	235	3	327	181	324	87	150	264	192
Dec. 18------	---	319	43	191	---	26	7	206	90	9	65	364	658	183	211	104	169	196	16	296	101	154	111	356	169	9	322	59	263	161	88	137	52
Dec. 19------	---	318	35	189	95	298	10	77	113	12	105	---	665	194	183	109	164	161	7	206	203	146	56	353	100	8	101	66	125	132	162	175	171
Dec. 20------	---	278	16	(370)	19	290	25	147	225	33	199	136	---	151	229	143	99	229	127	141	140	251	51	327	206	5	160	237	303	120	304	259	186
Dec. 21------	---	312	31	317	4	112	12	87	185	8	157	---	651	171	194	174	204	133	41	256	124	235	67	354	246	1	49	224	273	60	274	245	128
Dec. 22------	---	269	85	304	19	266	12	103	57	32	41	393	666	146	182	81	165	82	81	249	63	108	48	316	172	2	256	86	239	65	121	---	124
Dec. 23------	---	305	46	212	61	228	42	77	222	12	191	400	(669)	170	275	97	195	51	14	200	75	281	63	347	69	8	298	(26)	305	28	169	53	156
Averages------	---	303	44	(242)	47	217	19	122	150	26	127	316	(652)	170	221	142	157	153	44	231	119	193	71	344	171	5	216	(125)	262	93	181	189	144
Dec. 24------	---	311	85	251	30	153	8	113	13	82	5	381	675	47	231	183	204	79	185	285	106	62	57	350	48	8	319	52	297	90	297	235	124
Dec. 25------	---	320	88	137	41	274	8	98	152	76	140	396	676	147	171	249	225	252	137	285	216	187	49	356	89	2	317	146	261	72	150	78	181
Dec. 26------	---	318	42	142	12	126	5	180	214	19	191	301	672	157	272	101	170	235	87	284	206	248	66	356	69	3	314	(100)	80	126	253	216	134
Dec. 27------	---	298	89	174	76	154	13	176	195	170	163	263	633	113	139	129	212	222	---	212	198	223	39	347	227	2	250	298	53	86	236	30	198
Dec. 28------	---	315	34	188	100	201	18	127	182	90	160	342	658	185	335	222	162	166	249	265	98	171	66	341	212	1	239	277	144	152	297	210	208
Dec. 29------	---	171	36	216	177	82	(35)	187	114	234	64	260	---	130	157	15	53	24	169	77	33	153	92	344	263	1	61	231	210	175	264	160	82
Dec. 30------	---	277	128	263	162	96	9	182	160	185	144	283	663	112	182	112	252	152	102	265	188	190	102	178	280	3	176	(182)	177	187	292	222	57
Dec. 31------	---	259	3	386	160	323	25	181	174	106	156	378	676	141	327	144	249	---	120	285	158	169	(99)	227	213	6	244	272	334	156	266	225	202
Averages------	---	284	63	220	95	176	(15)	155	151	120	128	325	665	129	227	145	191	162	150	245	150	175	(71)	313	175	3	240	(195)	194	131	257	172	148

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Last sunrise

Table 33.--Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued

	Griffin, Ga.	Hatteras, N. C.	Great Falls, Mont.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif. (WBAS)	Los Angeles, Calif. (WBCO)	Madison, Wis.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Ottawa, Ontario	Phoenix, Ariz.	Portland, Me.	Prosser 4 NE, Wash.	Rapid City, S. Dak.	Richland, Wash.	Riverside, Calif.	St. Cloud, Minn.	San Antonio, Tex.
1955																																	
Dec. 3-----	169	256	174	49	354	18	203	236	290	22	111	146	231	249	52	47	159	179	341	68	67	125	74	297	71	353	129	69	111	114	320	73	323
Dec. 4-----	93	242	118	240	147	24	287	260	238	43	234	278	102	97	31	17	209	345	310	127	13	18	71	262	13	162	28	64	109	80	103	152	292
Dec. 5-----	142	196	140	143	184	67	129	246	226	193	252	184	120	127	130	48	20	245	277	172	165	168	245	140	86	355	162	99	193	101	175	223	290
Dec. 6-----	351	115	144	237	301	156	359	260	89	196	341	241	46	38	125	22	175	272	342	286	182	227	307	208	105	316	213	188	232	128	85	133	375
Dec. 7-----	145	89	138	133	343	109	351	225	299	175	115	209	228	262	168	10	114	236	327	212	161	98	88	295	124	331	145	176	174	158	329	171	371
Dec. 8-----	317	263	113	146	313	132	357	248	288	171	260	185	301	305	111	17	71	182	364	116	198	133	83	304	171	366	178	85	136	86	335	173	393
Dec. 9-----	141	---	80	117	321	20	383	178	287	171	132	256	92	180	195	10	103	292	352	138	34	13	110	267	165	326	143	158	126	112	221	235	389
Averages-----	194	194	130	152	280	75	296	236	245	139	206	214	160	180	116	25	122	250	330	160	117	112	140	253	105	316	142	120	154	111	224	166	348
Dec. 10-----	311	331	154	129	324	159	335	256	294	171	198	123	255	280	221	33	(44)	215	329	163	186	209	183	233	169	336	181	71	142	58	324	225	286
Dec. 11-----	323	208	56	248	330	75	77	241	284	234	291	99	300	295	190	23	66	341	346	276	228	207	297	269	142	353	209	99	221	94	331	200	130
Dec. 12-----	311	128	163	184	321	88	369	202	284	208	238	270	278	286	184	9	103	126	310	276	225	228	296	300	118	352	191	178	126	169	322	159	367
Dec. 13-----	334	329	100	---	314	164	361	265	268	53	267	253	258	258	28	15	110	229	331	269	216	205	262	263	95	345	164	183	228	169	288	142	354
Dec. 14-----	296	64	182	57	327	46	288	265	271	93	187	22	204	253	(149)	16	166	203	318	254	189	109	157	277	40	---	180	183	224	150	302	143	303
Dec. 15-----	315	189	52	181	324	62	316	277	281	174	297	265	147	192	174	25	65	396	340	260	74	113	237	313	50	319	73	51	217	41	281	189	368
Dec. 16-----	343	340	110	210	278	117	371	246	261	153	305	252	117	160	122	20	78	388	337	280	203	218	295	277	183	333	194	83	122	86	219	148	373
Averages-----	319	227	117	168	317	102	303	250	278	127	255	184	223	246	(153)	20	(90)	271	330	254	189	184	247	276	114	340	170	121	183	110	295	172	311
Dec. 17-----	319	310	67	204	281	90	145	252	198	180	284	136	83	132	156	15	58	266	333	255	179	151	274	293	61	326	180	93	222	76	207	110	254
Dec. 18-----	50	301	149	98	249	70	151	250	264	152	80	230	190	189	(80)	19	38	324	313	158	153	126	26	274	127	343	135	44	207	58	299	132	366
Dec. 19-----	328	298	150	220	226	108	116	209	227	160	183	228	203	209	194	14	26	389	344	190	110	133	238	248	135	320	148	66	199	58	234	107	334
Dec. 20-----	323	313	130	176	308	150	201	164	264	91	294	151	232	245	90	22	57	277	314	229	228	219	276	208	203	296	229	77	204	68	300	72	168
Dec. 21-----	135	215	83	134	253	101	174	181	227	131	226	42	153	224	117	21	9	305	332	138	217	197	177	206	(183)	325	239	30	147	34	290	132	126
Dec. 22-----	299	221	82	101	179	56	261	153	149	66	194	69	45	63	68	16	126	233	309	205	65	22	---	254	99	303	116	143	97	116	208	111	236
Dec. 23-----	177	285	24	26	328	133	312	51	289	20	49	167	114	48	37	24	90	363	312	17	220	89	48	269	187	321	224	88	87	77	262	87	247
Averages-----	233	277	98	137	261	101	194	180	231	114	187	146	146	159	(106)	19	58	308	322	170	168	134	173	250	(142)	559	182	77	166	70	257	107	247
Dec. 24-----	189	226	207	39	82	51	328	81	86	52	114	215	31	32	153	18	180	373	330	142	28	54	135	278	13	333	47	139	45	95	85	171	352
Dec. 25-----	121	296	145	---	70	170	273	176	155	196	286	186	90	93	113	21	88	399	327	178	194	204	233	282	116	333	180	105	71	107	132	82	352
Dec. 26-----	136	313	151	195	142	72	91	196	138	134	141	63	131	146	81	11	99	342	331	222	222	177	190	285	143	312	226	40	226	29	166	111	355
Dec. 27-----	124	284	158	175	336	55	300	194	210	139	282	169	280	253	83	3	97	324	339	263	214	219	287	205	93	151	136	132	66	119	204	63	342
Dec. 28-----	208	340	189	164	340	218	199	78	267	81	223	201	236	178	53	4	116	214	300	224	218	195	182	216	194	326	---	182	134	161	241	41	215
Dec. 29-----	105	246	172	34	313	23	166	230	267	68	34	83	231	162	174	---	127	267	71	169	136	103	---	73	72	182	---	133	241	97	168	162	137
Dec. 30-----	81	63	175	---	338	121	144	---	284	213	283	216	313	296	180	---	186	364	71	224	166	100	178	296	186	317	---	171	255	158	328	189	198
Dec. 31-----	355	332	135	224	329	139	383	---	296	226	314	271	184	205	197	---	147	394	252	281	132	119	325	228	152	343	---	216	167	94	249	204	350
Averages-----	165	262	167	139	244	106	236	159	213	139	210	175	187	171	129	11	130	335	253	213	164	146	218	233	121	287	147	140	151	108	197	128	288

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

Table 33.--Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.-Continued

DECEMBER 1955

	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Schenectady, N. Y.	Seabrook, N. J.	Seattle, Wash. (U. of W.)	Seattle, Wash. (WBAS)	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Toronto, Ontario	Tucson, Ariz.	Upton, N. Y.	Wake Island Pacific Area	Washington, D. C. (Silver Hill Obs.)	Winnipeg, Manitoba
1955																	
Dec. 3------	---	141	132	56	180	42	80	50	59	209	296	25	279	138	545	213	165
Dec. 4------	(68)	(34)	2	7	126	116	135	87	39	253	271	101	152	2	556	93	(137)
Dec. 5------	208	139	194	92	203	18	42	32	42	207	74	40	332	166	546	219	93
Dec. 6------	99	85	213	179	142	87	50	50	71	213	186	92	329	207	---	214	76
Dec. 7------	(314)	59	145	123	148	89	116	161	77	300	207	91	330	146	557	127	(149)
Dec. 8------	(245)	92	180	159	188	20	28	41	112	299	271	12	342	186	553	233	(150)
Dec. 9------	(180)	186	13	39	20	64	75	49	6	273	351	116	258	---	564	21	(144)
Averages------	(186)	(105)	126	94	144	62	75	67	58	251	237	68	289	141	554	160	(131)
Dec. 10------	---	106	252	182	234	24	26	90	166	187	404	209	326	223	579	251	(141)
Dec. 11------	(327)	188	248	99	225	13	(11)	54	139	75	144	100	337	229	---	250	(95)
Dec. 12------	303	104	256	173	213	86	(126)	146	142	266	64	116	333	227	565	241	58
Dec. 13------	244	115	257	62	238	128	154	155	42	247	---	75	323	---	535	200	90
Dec. 14------	134	192	176	66	162	120	139	162	57	267	319	28	296	164	491	180	91
Dec. 15------	228	149	113	39	126	28	42	52	124	296	227	153	314	---	445	157	(126)
Dec. 16------	288	115	228	147	206	20	(23)	61	141	235	390	155	339	---	514	242	99
Averages------	(254)	139	218	110	201	60	(74)	103	116	225	258	119	324	211	521	217	(100)
Dec. 17------	302	174	188	114	191	35	50	80	173	259	371	88	325	159	333	139	(128)
Dec. 18------	(169)	163	121	70	92	19	22	71	98	245	354	182	329	---	524	69	(144)
Dec. 19------	182	163	112	136	184	80	100	30	125	232	260	183	316	---	350	228	120
Dec. 20------	106	134	260	195	228	8	11	36	185	191	337	201	293	(196)	513	237	53
Dec. 21------	163	137	221	153	179	12	12	29	158	243	344	98	314	183	436	208	35
Dec. 22------	---	108	41	45	60	24	(45)	66	19	209	271	46	272	---	402	107	48
Dec. 23------	63	(32)	187	210	79	47	51	41	25	326	---	98	306	---	435	100	65
Averages------	(164)	(130)	161	132	145	32	(42)	50	112	244	323	128	308	(179)	428	155	(85)
Dec. 24------	---	31	52	51	98	19	22	101	117	265	---	23	322	---	472	108	146
Dec. 25------	141	65	231	130	219	33	(46)	42	193	258	222	122	333	---	437	226	(112)
Dec. 26------	(63)	193	231	147	184	14	16	16	114	259	250	160	325	---	391	186	88
Dec. 27------	(304)	171	259	171	230	49	(90)	98	203	143	152	202	285	232	506	248	108
Dec. 28------	(314)	74	258	185	232	84	107	92	167	159	151	128	316	227	484	237	113
Dec. 29------	(269)	76	139	122	113	136	164	144	29	45	301	11	308	142	459	65	(137)
Dec. 30------	263	115	105	143	112	132	(143)	155	121	241	345	150	319	119	411	94	(122)
Dec. 31------	237	48	117	155	200	74	(130)	23	207	228	399	72	315	---	451	242	(142)
Averages------	(227)	97	174	138	174	68	(90)	84	144	200	260	108	316	180	451	176	(121)

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

CONDENSED CLIMATOLOGICAL SUMMARY

Table 1

Section	Temperature: Average	Temperature: Departure from normal	Temperature: Monthly extremes: Station	Highest	Date	Station	Lowest	Date	Precipitation: Average	Precipitation: Departure from normal	Precipitation: Monthly extremes: Station	Greatest	Station	Least
	°F	°F.		°F			°F.		In.	In.		In.		In.
May 1955														
Alaska	36.9	-1.6	Fort Yukon CAA	75	24	Anaktuvuk Pass	-9	6	1.75	0.25	Little Port Walter	21.54	3 Stations	T
June 1955														
Alaska	46.6	-3.3	Beaver Falls	86	21	Allakaket	20	12+	2.28	.66	Whittier	14.62	Galena	0.34
Hawaii	69.8	-2.1	Puunene CAA AP	91	23+	Mauna Loa Upper	31	28	2.99	-.45	Keauhou 2	15.32	28 Stations	.00
Puerto Rico	78.3	.1	San German	97	24	Garzas Dam	55	8	6.09	.13	San Sabastian	14.69	Culebra Island	1.19
July 1955														
Alaska	54.1	.2	Fort Yukon CAA	97	25	Crooked Creek	17	1	2.06	-.48	Cordova	11.47	Wainwright	.30
Hawaii	70.8	-2.2	Puunene CAA AP	92	17	Mauna Loa Upper	26	5	4.37	-.12	Kahana	21.87	8 Stations	.00
August 1955														
Alaska	48.8	-2.2	2 Stations	82	1	Puntilla	17	30	4.19	.80	Little Port Walter	10.34	Galena	1.06
Hawaii	71.1	-2.4	do	91	19+	Mauna Loa Upper	28	12	4.46	-.80	Kahana	26.84	Halepohaku	.00
September 1955														
Alaska	41.6	-1.1	5 Stations	70	8+	Anaktuvuk	0	25	2.82	-.30	Little Port Walter	20.82	Chitina	.23
Hawaii	71.1	-2.2	Puunene CAA AP	92	12	Mauna Loa Upper	29	18	3.39	-.96	Kahana	15.20	11 Stations	.00
October 1955														
Alaska	24.3	-5.1	Tree Point Light Sta.	59	1	Allakaket	-26	30	2.68	-.30	Annette WB AP	31.98	Tanacross	.03
Hawaii	70.6	-1.8	Puunene CAA AP	93	24	Mauna Loa Upper	29	25+	2.84	-2.55	Kapaa STBL	16.26	9 Stations	.00
November 1955														
Hawaii	69.7	.8	Kahului AP	92	8	Mauna Loa Upper	25	17	7.23	.95	N Wai Ditch	37.52	Pohakuloa	.20

See footnotes with current data.

CLIMATOLOGICAL DATA

Table 2

State and station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet, Hail: Total	Snow, Sleet, Hail: Max. depth on ground	Wind: Average hourly speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear	Partly cloudy	Cloudy	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb.	°F	°F	°F	°F.	°F		°F.		#		°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
August 1955																																
ALASKA																																
Anchorage	92	1003.7	1008.8	62	47	54.4	-1.2	76	1	34	30	1	0	45	69	3.26	0.70	1.68	15	0	0.0	0	8.9	S	*30	SSE	27	3	4	24	8.4	35
Annette	110	1013.9	1017.8	59	50	54.3	-3.7	75	29	44	27	1	0	51	89	16.58	11.32	4.09	20	0	.0	0	11.8	SSE	*40	SSE	31	3	4	24	8.6	--
Barrow	22	1008.5	1009.0	36	28	32.1	-6.3	56	15	22	31	0	29	31	96	1.18	.38	.48	12	0	2.8	2	11.4	E	34	SW	17	3	4	24	8.5	--
Bethel	10	1005.4	1007.0	58	45	51.2	-1.5	71	5	30	29	2	1	47	87	4.36	.34	1.08	21	0	.0	0	11.4	SSW	*30	WSW	28	0	5	26	9.0	--
Cold Bay	103	1008.5	1012.3	54	45	49.6	---	62	23+	36	29	0	0	47	92	4.71	-----	1.28	24	0	.0	0	16.1	WSW	*40	WSW	14+	0	2	29	9.6	--
Cordova	40	------	------	58	44	50.9	-2.5	67	1	33	26	0	0	--	--	9.35	-.37	2.19	21	0	.0	0	----	---	--	---	--	1	3	27	9.2	--
Fairbanks	436	990.2	1007.2	63	43	53.1	-2.5	78	1	31	30	8	1	45	76	1.93	-.33	.52	16	1	T	0	6.2	SW	*23	SSW	2	3	3	25	8.2	--
Juneau	15	1013.5	1014.5	57	47	52.0	-2.2	74	1	38	30	1	0	47	85	6.53	1.37	1.22	25	0	.0	0	9.8	ESE	30	SE	13	2	0	29	9.4	12
Kotzebue	10	1005.4	1006.1	56	45	50.2	-.5	70	13	32	30	1	1	45	81	2.77	.82	1.25	12	0	T	0	13.3	W	*30	NNW	17+	10	3	18	6.9	--
McGrath	334	994.6	1007.2	61	42	51.7	-1.8	76	1	28	30	6	2	44	78	4.08	.45	2.10	17	1	.0	0	5.8	S	*23	S	23	2	4	25	8.5	--
Nome	13	1004.7	1005.6	55	43	49.1	.0	73	7	32	29	1	1	44	82	4.58	.82	1.63	15	0	.0	0	11.0	N	36	N	14	3	8	20	7.8	35
Northway	1713	---- -	------	61	41	50.8	-2.9	73	2	30	30	2	1	--	--	1.35	-.46	.32	19	0	T	0	----	---	--	---	--	0	4	27	8.9	--
St. Paul Island	22	1010.2	1011.1	50	43	46.8	-1.2	54	8+	36	27	0	0	45	96	3.34	.35	1.10	20	0	.0	0	----	---	--	---	--	1	1	29	9.5	--
Yakutat	28	1011.9	1012.9	56	47	51.5	-1.3	70	1	40	16	1	0	49	91	14.62	4.08	2.34	22	0	.0	0	9.5	ESE	*36	SE	31	0	2	29	9.6	--

See footnotes with current data.

RADIOSONDE DATA

Average monthly values

Table 20

Standard pressure surface (mb.)	1 HAVANA, CUBA (1010 MB.)				HAVANA, CUBA (1010 MB.)				CAMAGUEY, CUBA (1001 MB.)				ST. PAUL, ALASKA (1010 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	30	49	23.7	81	31	49	24.5	83	22	122	23.4	94	30	10	[illegible]	[illegible]
1,000	30	135	23.5	77	31	139	24.2	79	[illegible]	[illegible]	23.4	[illegible]	30	[illegible]		
950	30	590	21.0	72	31	596	22.3	65	22	[illegible]	22.7	81	[illegible]	510	[illegible]	92
900	30	1,049	18.7	61	31	1,057	19.7	59	22	1,052	20.6	70	[illegible]	941	1.0	86
850	30	1,537	15.4	64	31	1,548	16.5	61	22	1,545	17.8	69	30	1,399	-.5	[illegible]
800	30	2,049	12.3	57	31	2,061	12.9	61	22	2,061	14.7	67	30	1,882	-2.5	71
750	30	2,596	9.7	39	31	2,606	10.3	44	22	2,610	11.6	[illegible]	[illegible]	2,401	-4.9	72
700	30	3,159	8.0	22	31	3,173	6.8	36	22	3,178	8.5	57	[illegible]	[illegible]	-7.7	68
650	30	3,778	5.0		31	3,787	3.2	34	22	3,794	5.0	54	30	3,514	-10.8	[illegible]
600	30	4,417	1.3		31	4,424	.0	30	22	4,437	1.5	48	30	4,117	-14.3	60
550	30	5,112	-2.7		31	5,113	-4.0	27	21	5,136	[illegible]	36	30	4,777	-18.4	55
500	30	5,862	-7.7		31	5,861	-8.4		21	[illegible]	-6.8		30	5,476	-23.0	51
450	30	6,685	-13.7		31	6,679	-13.9		21	6,710	-11.7		30	6,250	-28.2	47
400	30	7,558	-20.4		31	7,554	-20.7		21	7,591	-17.8		[illegible]	7,075	-33.9	[illegible]
350	30	8,530	-28.4		31	8,524	-28.3		21	8,577	-24.7		[illegible]	7,997	-40.6	
300	30	9,616	-36.9		31	9,612	-36.0		21	9,680	-33.1		30	9,033	-46.4	
250	30	10,852	-46.4		31	10,852	-45.5		21	10,936	-42.9		30	10,232	-49.6	
200	30	12,303	55.3		31	12,307	-55.2		20	12,405	-54.9		30	[illegible]	-47.3	
175	30	13,145	-59.7		30	13,152	-60.0		20	13,245	-61.8		30	12,582	-46.6	
150	29	14,097	-64.8		23	14,162	-64.8		19	[illegible]	-68.8		30	13,604	-46.7	
125	26	15,198	-69.3		12	15,196	-68.4		[illegible]	15,250	-73.6		30	14,811	-47.2	
100	26	16,516	-73.1		6	16,520	-71.7						[illegible]	16,285	-47.5	
80	16	17,807	-74.4										[illegible]	17,757	-47.9	
60	13	19,497	-68.5										[illegible]	19,652	-48.1	
50	12	20,603	-64.2										28	20,857	-48.0	
40	11	21,981	-60.0										24	22,338	-48.0	
30	11	23,800	-54.5										20	24,243	-47.0	
20													6	26,932	-45.7	

Standard pressure surface (mb.)	1 MERIDA, MEXICO (1011 MB.)				ST. PAUL, ALASKA (1010 MB.)				CAMAGUEY, CUBA (1000 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	27	[illegible]	[illegible]	31	[illegible]	11.5	[illegible]	[illegible]	122	23.7	94
1,000	[illegible]	[illegible]	[illegible]	[illegible]	31	[illegible]	[illegible]	81	27	121	23.6	94
950	31	[illegible]	24.0	76	[illegible]	517	8.5	78	27	576	23.6	79
900	31	1,052	21.4	74	31	959	6.4	77	27	1,044	21.4	73
850	31	1,546	18.5	70	31	[illegible]	4.2	76	[illegible]	1,538	18.6	70
800	[illegible]	2,064	15.5	65	[illegible]	1,918	2.1	74	27	2,056	15.7	66
750	[illegible]	[illegible]	12.4	58	31	[illegible]	-.2	70	27	2,607	12.8	58
700	31	[illegible]	9.0	56	[illegible]	2,987	-2.7	67	27	[illegible]	9.3	57
650	31	3,800	5.2	59	[illegible]	3,577	-6.1	61	27	[illegible]	5.4	56
600	31	4,445	1.5	[illegible]	[illegible]	4,194	[illegible]	[illegible]	27	4,439	[illegible]	[illegible]
550	[illegible]	5,139	-2.3	[illegible]	30	4,866	-13.6	[illegible]	27	5,142	-2.1	48
500	31	5,892	-6.6	[illegible]	30	5,579	-18.2	46	[illegible]	5,887	[illegible]	47
450	31	[illegible]	-11.7	[illegible]	[illegible]	6,367	[illegible]	[illegible]	27	6,716	-11.7	44
400	31	7,601	-17.5	[illegible]	30	7,210	-29.3	39	[illegible]	7,596	-17.3	45
350	[illegible]	[illegible]	-24.7	[illegible]	30	[illegible]	-36.2		27	[illegible]	[illegible]	
300	31	9,687	-33.4	50	30	9,201	-43.9		[illegible]	9,692	-32.0	[illegible]
250	30	10,939	-43.8		30	10,404	-50.3		[illegible]	10,954	-42.2	
200	30	12,395	-56.5		30	11,865	-47.5		27	12,425	-54.6	
175	[illegible]	13,229	-63.3		30	12,749	-46.4		27	13,267	-61.4	
150	29	14,160	-60.8		30	13,771	-46.7		[illegible]	14,213	[illegible]	
125	23	15,233	-72.6		[illegible]	14,979	-47.6		[illegible]	15,301	-72.7	
100	[illegible]	16,544	-71.8		29	16,451	-47.7		[illegible]	16,594	-73.1	
80	9	17,869			29	17,924	-47.5		[illegible]	17,909	-70.2	
60	6	19,623	-64.0		28	19,826	[illegible]		7	19,648	-64.9	
50					[illegible]	21,029	-46.7		[illegible]	20,770	-62.0	
40					[illegible]	22,507	-46.0		[illegible]	22,186	-56.5	
30					16	[illegible]	-45.2					
20												

Standard pressure surface (mb.)	5 MERIDA, MEXICO (1010 MB.)				5 ST. PAUL, ALASKA (1011 MB.)				CAMAGUEY, CUBA (1000 MB.)				6/ HAVANA, CUBA (1008 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	27	26.9	79	31	10	9.3	93	24	122	23.7	96	29	49	26.0	88
1,000	31	117	26.6	79	31	97			24	120	23.6	[illegible]	29	118	26.0	85
950	31	580	24.6	74	31	527	7.6	88	24	574	23.4	[illegible]	[illegible]	581	23.9	78
900	31	1,044	21.9	72	31	966	6.7	81	24	1,041	20.8	[illegible]	29	1,044	21.1	75
850	31	1,539	19.0	71	31	1,434	5.1	77	24	1,534	18.2	73	29	[illegible]	18.2	74
800	31	2,057	15.8	70	31	1,928	3.2	72	24	2,052	15.4	[illegible]	29	2,055	15.3	72
750	31	2,608	12.8	63	31	2,453	.8	67	24	2,604	12.4	63	29	2,607	12.5	65
700	30	3,180	9.5	62	31	3,001	-1.9	60	24	3,173	9.2	55	29	3,177	9.5	55
650	30	3,798	6.1	58	31	3,596	-4.9	56	25	3,796	5.4	55	29	3,797	6.0	[illegible]
600	30	4,444	2.2	56	31	4,213	-8.2	51	25	4,433	1.4	56	29	4,441	2.2	57
550	30	5,143	-2.0	57	30	4,894	-12.0	53	25	5,138	-2.4	53	28	5,142	-1.7	56
500	29	5,894	-6.1	56	30	5,609	-16.5	50	25	5,880	-5.8	46	28	5,892	[illegible]	52
450	28	6,722	-11.1	54	30	6,406	-21.7	48	24	6,709	-11.1	45	27	6,722	-11.0	50
400	28	7,609	-16.5	52	30	7,251	-27.5	45	24	7,593	-16.9		27	7,606	-16.9	45
350	28	8,599	-23.3	49	30	8,196	-35.0	40	24	8,581	-24.0		27	8,595	-23.7	41
300	28	9,708	-31.6	45	30	9,253	-42.6		24	9,688	-32.4		26	9,704	-32.1	39
250	27	10,968	-41.9		28	10,473	-48.8		24	10,948	-42.3		26	10,965	[illegible]	
200	26	12,437	-54.3		27	11,925	-50.4		24	12,420	-54.1		25	12,438	-54.2	
175	25	13,278	-61.1		27	12,796	-50.1		24	13,264	-60.6		25	13,281	-60.8	
150	24	14,217	-68.3		27	13,801	-50.9		19	14,209	-67.6		25	14,223	-67.8	
125	23	15,299	-73.9		27	14,985	-51.8		15	15,284	-73.8		21	15,303	-73.1	
100	19	16,599	-75.7		27	16,430	-51.9		9	16,588	-73.0		14	16,594	-74.5	
80	12	17,906	-71.6		26	17,889	-51.6		6	17,889	-71.0		9	17,891	-70.9	
60	7	19,634	-65.2		26	19,758	-50.6		6	19,617	-65.5		8	19,628	-63.8	
50	6	20,764	-61.5		25	20,947	-50.1		5	20,730	-61.2		8	20,754	-61.1	
40					23	22,416	-49.2						[illegible]	22,151	-57.5	
30					16	24,292	-47.6						7	23,968	-54.8	

Standard pressure surface (mb.)	TACUBAYA, MEXICO (773 MB.)				VERACRUZ, MEXICO (1008 MB.)				7/ CAMAGUEY, CUBA (1000 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	21	2,306	[illegible]	76	[illegible]	13	27.5	81	[illegible]	[illegible]	22.6	
1,000	21	52			[illegible]	80	27.1	[illegible]	13	[illegible]	22.7	
950	21	511			[illegible]	528	24.2	[illegible]	[illegible]	582	22.5	
900	21	987			[illegible]	1,006	21.4	[illegible]	13	1,044	19.9	
850	21	1,484			[illegible]	1,500	18.3	79	[illegible]	1,535	17.3	
800	21	2,011			28	2,018	15.3	79	13	2,051	14.5	
750	21	2,561	14.4	76	[illegible]	2,573	[illegible]	[illegible]	13	2,602	11.6	
700	21	3,140	10.4	79	28	3,141	9.0	[illegible]	13	3,169	8.9	
650	21	3,760	6.3	[illegible]	28	3,758	5.7	74	[illegible]	3,790	5.2	
600	21	4,407	2.2	86	28	4,404	[illegible]	72	13	4,428	1.5	
550	21	5,108	-1.8	81	27	5,104	-1.7	69	[illegible]	5,130	-2.9	
500	21	5,860	-5.5	71	[illegible]	5,858	-5.6	[illegible]	13	[illegible]	[illegible]	
450	19	6,693	-10.0	64	25	6,695	-10.0	61	13	6,702	-11.7	
400	19	7,582	-15.7	58	[illegible]	7,580	-15.7	[illegible]	13	7,581	-17.4	
350	15	8,580	-21.9		24	8,574	-22.5	44	[illegible]	[illegible]	-24.4	
300	9	9,700	-30.4		21	9,682	-31.3		12	9,675	-32.8	
250					[illegible]	10,946	-41.6		12	10,933	-42.5	
200					17	12,410	-54.4		12	12,404	-54.3	
175					15	13,250	-61.8		12	13,247	-60.9	
150					[illegible]	14,188	-69.4		12	14,190	-67.8	
125					11	15,261	-76.3		10	15,265	-74.1	
100									[illegible]	16,543	-77.8	
80												
60												
50												
40												
30												

Standard pressure surface (mb.)	7/ HAVANA, CUBA (1008 MB.)				7 MERIDA, MEXICO (1011 MB.)				7 ST. PAUL, ALASKA (1001 MB.)				7/ TACUBAYA, MEXICO (774 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	31	49	24.1	86	30	27	24.9	84	31	10	2.0	79	28	2,306	14.5	68
1,000	31	119	24.1	83	30	121	24.6	82	31	[illegible]			28	[illegible]		
950	31	572	22.0	79	30	575	22.3	78	31	437	-1.2	75	[illegible]	540		
900	31	1,037	18.9	80	30	1,040	19.5	78	31	860	-4.3	77	28	1,013		
850	31	1,526	16.0	76	30	1,531	16.9	76	31	1,308	-7.4	[illegible]	28	1,506		
800	31	2,040	13.7	68	30	2,046	14.0	74	31	1,777	-10.1	71	28	2,035		
750	31	2,586	11.1	63	30	2,594	11.4	65	31	2,282	-12.5	61	28	2,581	12.8	69
700	31	3,156	7.9	60	30	3,164	8.9	55	31	2,796	-15.4	[illegible]	[illegible]	3,153	9.0	71
650	31	3,769	4.5	57	30	3,779	5.7	48	31	3,364	-18.7	49	[illegible]	3,771	4.9	77
600	31	4,412	.7	51	29	4,425	1.9	50	31	3,945	-22.2	46	28	4,413	1.0	79
550	30	5,105	-3.2	48	28	5,124	-2.3	47	31	4,586	-26.0	44	27	5,111	-2.5	65
500	30	5,858	7.5	46	27	5,873	-7.0	48	31	5,263	-30.3		27	5,861	-6.1	[illegible]
450	30	6,678	-12.5	40	26	6,697	-11.9	41	31	6,016	-35.1		26	[illegible]	-11.1	
400	30	7,563	-18.4	34	26	7,580	-17.4		31	6,817	-40.2		25	7,576	-16.7	
350	30	8,547	-25.1		25	8,568	-24.4		31	7,717	-45.5		20	8,561	-23.6	
300	30	9,648	-33.4		25	9,671	-33.2		31	8,732	-49.4		14	9,666	-31.7	
250	30	10,903	-42.9		25	10,923	-43.6		31	9,922	-50.0		11	10,927	[illegible]	
200	30	12,373	-54.0		23	12,379	-55.8		30	11,376	-49.3		9	[illegible]	-54.2	
175	30	13,218	-60.1		22	13,213	-62.4		29	12,243	-50.1		7	13,234	-60.6	
150	26	14,162	-66.7		21	14,145	-69.3		28	13,248	-50.5		7	14,177	-67.3	
125	21	15,251	-72.4		20	15,215	-75.1		28	14,434	-50.8		6	15,264	-72.9	
100	14	16,535	-75.4		16	16,499	-78.1		28	15,886	-50.7		5	16,564	-76.8	
80	10	17,833	-71.7		12	17,782	-72.8		28	17,337	-51.0					
60	10	19,560	-64.4		6	19,484	-65.1		28	19,205	-51.4					
50	10	20,685	-60.7		5	20,617	-61.7		27	20,388	-51.6					
40	9	22,075	-57.6						25	21,837	-51.5					
30	[illegible]	23,904	-53.7						14	23,722	-51.7					
20	5	26,510	-48.9													

Standard pressure surface (mb.)	VERACRUZ, MEXICO (1012 MB.)				CAMAGUEY, CUBA (1002 MB.)				MERIDA, MEXICO (1013 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	[illegible]	13	26.3	[illegible]	30	122	21.0	[illegible]	[illegible]	27	24.2	[illegible]
1,000	28	121	25.4	73	30	[illegible]	21.2	[illegible]	[illegible]	[illegible]	23.9	[illegible]
950	28	566	22.0	75	[illegible]	[illegible]	21.6	79	[illegible]	592	21.8	78
900	[illegible]	1,039	18.9	76	30	1,050	18.9	76	[illegible]	1,061	19.1	75
850	28	1,528	16.0	73	30	1,539	15.9	75	[illegible]	1,551	16.3	70
800	28	2,042	[illegible]	72	30	2,052	13.5	[illegible]	30	2,065	13.8	62
750	28	2,591	[illegible]	71	[illegible]	2,606	11.1	49	[illegible]	2,609	11.3	47
700	28	[illegible]	7.3	66	30	[illegible]	[illegible]	37	30	3,180	8.4	41
650	27	3,769	4.2	[illegible]	30	3,790	5.7		30	3,794	5.5	[illegible]
600	[illegible]	4,409	.9	51	29	[illegible]	[illegible]		[illegible]	4,440	1.7	36
550	[illegible]	5,109	-2.7	[illegible]	29	5,131	-1.9		29	5,134	-2.6	[illegible]
500	24	5,855	-7.1		29	5,876	-6.9		27	5,884	-7.5	
450	24	6,688	[illegible]		29	6,704	-12.3		[illegible]	6,703	-12.9	
400	24	7,565	-17.1		29	7,581	-18.6		24	7,584	-18.7	
350	21	8,555	-24.3		29	8,563	-25.8		24	8,563	-26.0	
300	19	9,656	-32.9		29	9,661	-34.0		22	9,658	-34.5	
250	16	10,909	-43.3		29	10,913	-43.6		[illegible]	10,906	-44.6	
200	16	12,371	-55.6		29	12,377	-55.5		11	12,358	-56.2	
175	13	13,203	-62.4		[illegible]	13,215	-61.9		11	[illegible]	-62.4	
150	[illegible]	14,135	-69.7		28	14,152	-68.0		9	14,134	-68.6	
125	6	15,181	-77.0		[illegible]	15,238	-71.9		7	15,229	-73.7	
100					14	16,522	-75.4					
80					[illegible]	17,826	-76.2					
60					6	19,512	-69.1					
50					6	20,617	-63.3					
40					[illegible]	22,011	-58.9					
30												
20												

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average monthly values

Table 20—Continued

Standard pressure surface (mb)	8/ TACUBAYA, MEXICO (774 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	8/ VERACRUZ, MEXICO (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	28	2,306	15.6	58	28	13	24.9	81
1,000	28	69			28	124	24.1	81
950	28	528			28	570	21.3	79
900	28	1,003			28	1,040	18.8	75
850	28	1,500			28	1,530	16.6	69
800	28	2,028			28	2,045	14.3	64
750	28	2,576	14.4	56	28	2,598	11.4	56
700	28	3,154	10.1	62	28	3,162	8.4	49
650	28	3,770	5.2	69	28	3,776	4.9	46
600	28	4,415	.5	73	27	4,420	1.1	42
550	28	5,108	- 3.3	62	27	5,116	- 3.1	40
500	28	5,858	- 7.5		25	5,865	- 7.5	34
450	28	6,679	-12.7		24	6,694	-12.6	
400	28	7,561	-18.6		24	7,569	-18.8	
350	27	8,542	-25.9		23	8,547	-26.2	
300	25	9,640	-34.3		22	9,642	-34.7	
250	23	10,885	-44.8		21	10,890	-44.9	
200	18	12,327	-56.8		18	12,344	-57.2	
175	15	13,169	-62.6		16	13,176	-63.4	
150	12	14,106	-69.1		12	14,122	-69.6	
125	5	15,213	-72.0		9	15,205	-74.7	
100					5	16,488	-77.1	

1/ April 1955
2/ May 1955
3/ June 1955
4/ July 1955

5/ August 1955
6/ September 1955
7/ October 1955
8/ November 1955

Also see footnotes with current data

RAWIN DATA

Average monthly resultant winds

Table 22

Altitude (meters) m.s.l.	1/ Ft. Huachuca, Ariz. (1,428 m.) No. of observations	Direction	Speed	2/ Ft. Huachuca, Ariz. (1,428 m.) No. of observations	Direction	Speed	3/ Ft. Huachuca, Ariz. (1,428 m.) No. of observations	Direction	Speed
Surface	26	243	1.9	31	204	2.0	31	226	1.7
500	--	---	----	--	---	----	--	---	----
1,000	--	---	----	--	---	----	--	---	----
1,500	25	245	1.8	31	227	2.6	31	254	1.6
2,000	24	212	2.2	30	266	2.0	31	334	1.5
2,500	25	210	2.8	30	287	1.0	31	56	2.0
3,000	25	226	3.9	30	185	.6	31	80	3.4
4,000	25	236	7.1	31	127	2.3	31	96	4.8
5,000	25	236	11.5	30	134	2.9	29	103	5.6
6,000	24	238	15.8	29	173	2.5	29	110	4.6
8,000	24	233	23.2	27	250	2.6	25	108	4.1
10,000	21	236	27.6	25	247	6.4	21	102	4.1
12,000	17	239	28.7	21	243	9.6	16	113	4.6
14,000				14	233	6.0			

1/ January 1955
2/ July 1955
3/ August 1955

See footnotes with current data.

SOLAR RADIATION DATA

Table 33.--Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

	Tallahassee, Fla.		Tallahassee, Fla.		Tallahassee, Fla.		Tallahassee, Fla.		Tallahassee, Fla.		Tallahassee, Fla.		Tallahassee, Fla.
1954		May		Jun.		Jul.		Aug.		Sep.		Oct.	
Apr. 2-----	225	7	635	4	607	2	619	6	583	3	601	1	441
Apr. 3-----	609	8	605	5	743	3	584	7	464	4	416	2	483
Apr. 4-----	593	9	666	6	716	4	598	8	437	5	567	3	340
Apr. 5-----	318	10	650	7	702	5	600	9	440	6	583	4	475
Apr. 6-----	503	11	554	8	671	6	659	10	562	7	442	5	450
Apr. 7-----	582	12	558	9	623	7	543	11	679	8	485	6	419
Apr. 8-----	563	13	520	10	633	8	401	12	622	9	545	7	321
Average------	485		598		671		572		541		520		418
Apr. 9-----	530	14	466	11	198	9	---	13	612	10	442	8	381
Apr. 10-----	476	15	632	12	622	10	---	14	---	11	512	9	482
Apr. 11-----	558	16	600	13	531	11	---	15	---	12	535	10	452
Apr. 12-----	558	17	541	14	613	12	236	16	41	13	553	11	269
Apr. 13-----	---	18	552	15	567	13	536	17	641	14	427	12	441
Apr. 14-----	---	19	271	16	508	14	599	18	615	15	151	13	425
Apr. 15-----	600	20	672	17	446	15	589	19	623	16	309	14	483
Average------	544		533		498		490		506		418		419
Apr. 16-----	208	21	669	18	537	16	526	20	---	17	392	15	427
Apr. 17-----	699	22	703	19	697	17	504	21	---	18	475	16	487
Apr. 18-----	682	23	687	20	535	18	341	22	---	19	537	17	483
Apr. 19-----	675	24	676	21	686	19	509	23	246	20	507	18	458
Apr. 20-----	589	25	546	22	671	20	602	24	574	21	190	19	473
Apr. 21-----	510	26	246	23	481	21	503	25	603	22	240	20	445
Apr. 22-----	639	27	497	24	259	22	555	26	519	23	277	21	446
Average------	572		575		552		506		485		374		460
Apr. 23-----	594	28	390	25	494	23	303	27	681	24	516	22	438
Apr. 24-----	597	29	406	26	459	24	549	28	573	25	320	23	384
Apr. 25-----	531	30	518	27	567	25	278	29	564	26	330	24	346
Apr. 26-----	492	31	660	28	179	26	189	30	601	27	346	25	374
Apr. 27-----	550	Jun1	497	29	499	27	284	31	511	28	454	26	328
Apr. 28-----	554	2	612	30	580	28	544	Sep.1	600	29	296	27	321
Apr. 29-----	578	3	549	Jul.1	601	29	663	2	601	30	473	28	321
Average------	557		519		483		402		590		391		359
Apr. 30-----	621					30	633					29	428
May 1-----	394					31	610					30	421
May 2-----	600					Aug.1	584					31	386
May 3-----	433					2	603					Nov.1	339
May 4-----	454					3	410					2	438
May 5-----	729					4	603					3	224
May 6-----	717					5	625					4	124
Average------	564						581						337

		Tallahassee, Fla.		Tallahassee, Fla.		Tallahassee, Fla.		Tallahassee, Fla.		Prosser 4 NE, Wash.		Prosser 4 NE, Wash.		Albrook Air Base Panama, C. Z.	Prosser 4 NE, Wash.	Seabrook, N. J.
1954	Nov.		Dec.		1955 Jan.		Feb.		Apr.		May		Jun.			
Apr. 2-----	5	409	3	318	1	197	5	223	2	---	7	751	4	572	---	---
Apr. 3-----	6	384	4	310	2	136	6	62	3	---	8	767	5	350	793	---
Apr. 4-----	7	382	5	105	3	303	7	196	4	---	9	758	6	590	813	---
Apr. 5-----	8	373	6	51	4	314	8	450	5	---	10	510	7	618	812	665
Apr. 6-----	9	344	7	352	5	307	9	447	6	---	11	600	8	468	802	85
Apr. 7-----	10	---	8	237	6	218	10	346	7	---	12	551	9	503	737	128
Apr. 8-----	11	---	9	70	7	329	11	327	8	---	13	679	10	405	810	602
Average------		379		206		258		293		---		659		501	795	370
Apr. 9-----	12	---	10	360	8	306	12	512	9	---	14	352	11	352	805	99
Apr. 10-----	13	---	11	354	9	241	13	494	10	---	15	231	12	627	---	569
Apr. 11-----	14	---	12	241	10	140	14	422	11	---	16	218	13	370	654	572
Apr. 12-----	15	---	13	61	11	344	15	402	12	---	17	613	14	377	591	538
Apr. 13-----	16	169	14	106	12	290	16	453	13	---	18	730	15	244	854	620
Apr. 14-----	17	165	15	---	13	(142)	17	287	14	---	19	755	16	120	691	746
Apr. 15-----	18	197	16	317	14	365	18	425	15	---	20	602	17	506	633	646
Average------		---		240		(261)		428		---		500		371	705	542
Apr. 16-----	19	215	17	241	15	261	19	399	16	---	21	799	18	448	846	656
Apr. 17-----	20	330	18	327	16	91	20	309	17	---	22	689	19	553	798	166
Apr. 18-----	21	349	19	280	17	84	21	384	18	---	23	---	20	371	806	538
Apr. 19-----	22	305	20	326	18	25	22	447	19	---	24	---	21	201	784	601
Apr. 20-----	23	245	21	303	19	144	23	194	20	---	25	---	22	642	690	617
Apr. 21-----	24	272	22	293	20	379	24	307	21	---	26	---	23	428	737	669
Apr. 22-----	25	341	23	225	21	124	25	412	22	631	27	---	24	243	829	525
Average------		294		385		158		350		---		---		412	784	539
Apr. 23-----	26	240	24	187	22	366	26	303	23	662	28	---	25	407	644	160
Apr. 24-----	27	191	25	143	23	33	27	291	24	553	29	---	26	400	655	548
Apr. 25-----	28	238	26	168	24	42	28	403	25	489	30	---	27	373	792	---
Apr. 26-----	29	322	27	188	25	413	Mar.1	290	26	354	31	---	28	468	499	---
Apr. 27-----	30	336	28	138	26	412	2	343	27	589	Jun.1	---	29	480	847	---
Apr. 28-----	Dec.1	308	29	112	27	410	3	346	28	541	2	---	30	423	678	572
Apr. 29-----	2	293	30	315	28	390	4	341	29	519	3	---	Jul.1	423	601	321
			31	278												
Average------		275				295		331		620		---		425	674	400
			Avg.	191												
Apr. 30-----					29	421			30	653						
May 1-----					30	389			May 1	567						
May 2-----					31	400			2	711						
May 3-----					Feb.1	283			3	543						
May 4-----					2	264			4	666						
May 5-----					3	314			5	693						
May 6-----					4	247			6	748						
Average------						331				654						

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

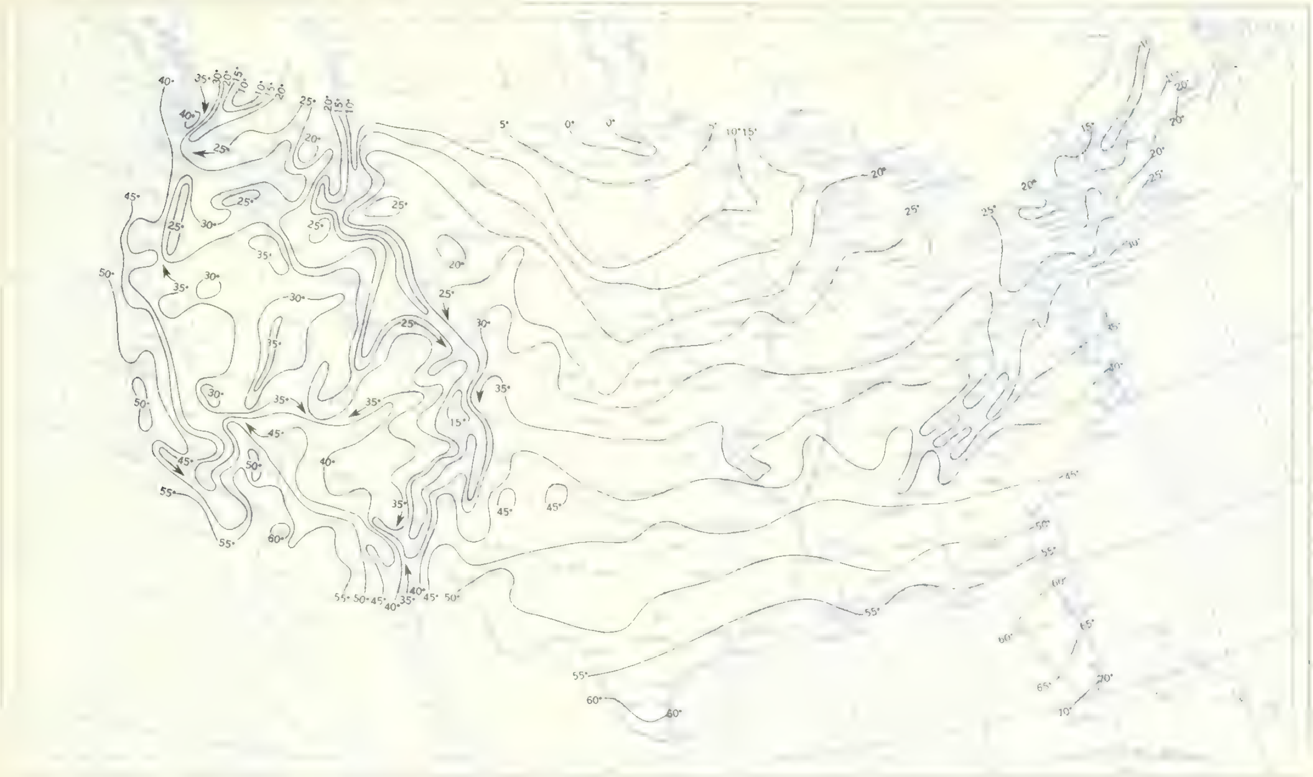
Table 33.--Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

	Albrook Air Base Panama, C. Z.	Bethel, Alaska	Prosser 4 NE, Wash.		Albrook Air Base Panama, C. Z.	Bethel, Alaska	Columbus, Ohio	* Ottawa, Ont.	Prosser 4 NE, Wash.		Albrook Air Base Panama, C. Z.	Bethel, Alaska	Columbus, Ohio	Davis, Calif.	Prosser 4 NE, Wash.	Stillwater, Okla.	Swan Island, W. I.	Tallahassee, Fla.		Aklavik, Mackenzie		Columbus, Ohio	Davis, Calif.
1955				Aug.						Sep.									Oct.		Nov.		
Jul. 2-----	534	---	763	6	---	447	606	583	728	3	---	423	396	554	598	418	635	385	1	182	5	316	161
Jul. 3-----	249	---	587	7	---	---	426	330	611	4	---	213	425	534	599	574	665	366	2	(153)	6	398	242
Jul. 4-----	325	---	680	8	491	455	678	691	733	5	---	205	504	522	538	584	652	415	3	(178)	7	---	226
Jul. 5-----	357	133	605	9	316	367	287	668	740	6	---	77	479	551	428	602	453	368	4	45	8	---	235
Jul. 6-----	510	355	418	10	555	129	402	201	715	7	---	65	553	589	401	575	261	520	5	71	9	---	188
Jul. 7-----	485	164	766	11	257	192	539	---	710	8	481	---	516	564	206	551	527	593	6	26	10	---	231
Jul. 8-----	247	232	448	12	320	437	618	(646)	715	9	595	164	477	545	529	502	551	503	7	60	11	170	249
Average------	387	221	610		388	338	508	(520)	707		---	191	479	551	471	544	535	450		(102)		---	219
Jul. 9-----	312	331	374	13	548	227	244	122	699	10	440	195	338	551	511	43	366	532	8	38	12	153	138
Jul. 10-----	257	436	504	14	437	181	---	455	700	11	375	234	180	549	567	501	551	---	9	63	13	143	13
Jul. 11-----	405	527	765	15	352	377	---	413	698	12	481	180	560	540	547	492	588	---	10	105	14	60	81
Jul. 12-----	---	337	779	16	373	487	---	211	684	13	432	---	529	548	185	535	581	---	11	(90)	15	50	215
Jul. 13-----	323	101	766	17	383	435	550	415	669	14	392	228	463	277	282	331	442	---	12	42	16	52	15
Jul. 14-----	312	193	754	18	438	144	559	475	655	15	317	191	480	557	325	494	310	340	13	73	17	284	110
Jul. 15-----	456	178	644	19	272	241	609	530	656	16	493	362	431	549	479	501	637	361	14	(122)	18	208	53
Average------	344	301	655		400	299	490	374	680		419	232	426	510	414	414	496	---		(76)		136	89
Jul. 16-----	247	224	718	20	---	266	554	494	693	17	702	116	463	464	550	515	603	492	15	(34)	19	52	175
Jul. 17-----	413	---	798	21	411	80	487	573	671	18	366	---	410	---	531	366	618	376	16	59	20	137	56
Jul. 18-----	532	228	793	22	406	---	176	331	668	19	385	97	455	530	522	255	516	565	17	95	21	243	229
Jul. 19-----	513	---	791	23	295	187	447	299	663	20	530	112	402	531	498	515	652	---	18	42	22	159	223
Jul. 20-----	447	296	785	24	518	321	642	633	665	21	714	71	329	523	338	500	617	---	19	34	23	33	23
Jul. 21-----	132	361	769	25	---	209	618	499	634	22	491	118	337	521	435	184	542	---	20	13	24	318	201
Jul. 22-----	492	274	731	26	---	72	526	497	654	23	460	117	62	496	507	369	519	---	21	(40)	25	226	203
Average------	397	277	769		408	189	493	475	664		521	105	351	511	483	386	581	---		(45)		167	159
Jul. 23-----	465	218	669	27	---	330	425	561	639	24	519	151	190	530	493	326	360	---	22	(60)	26	253	192
Jul. 24-----	318	147	735	28	---	292	290	623	---	25	499	71	362	530	502	53	---	---	23	(46)	27	214	200
Jul. 25-----	272	227	742	29	---	387	468	593	607	26	659	184	230	524	404	137	---	450	24	12	28	155	125
Jul. 26-----	231	229	178	30	---	378	306	194	617	27	419	---	122	492	74	334	---	482	25	37	29	208	192
Jul. 27-----	539	389	740	31	---	125	450	548	642	28	533	122	391	496	480	386	---	525	26	27	30	239	126
Jul. 28-----	437	594	695	Sep.1	458	143	424	492	622	29	516	30	311	485	473	390	---	322	27	70	Dec.1	40	144
Jul. 29-----	468	354	684	2	---	322	537	374	606	30	513	229	248	470	453	213	---	490	28	21	2	40	213
Average------	390	308	635		---	282	414	484	622		523	131	265	504	411	263	---	454		(39)		164	170
Jul. 30-----	562	661	728																29	39			
Jul. 31-----	457	653	676																30	27			
Aug. 1-----	181	223	747																31	37			
Aug. 2-----	---	283	758																Nov.1	27			
Aug. 3-----	499	117	750																2	27			
Aug. 4-----	453	187	739																3	14			
Aug. 5-----	467	538	726																4	20			
Average------	436	380	732																	27			

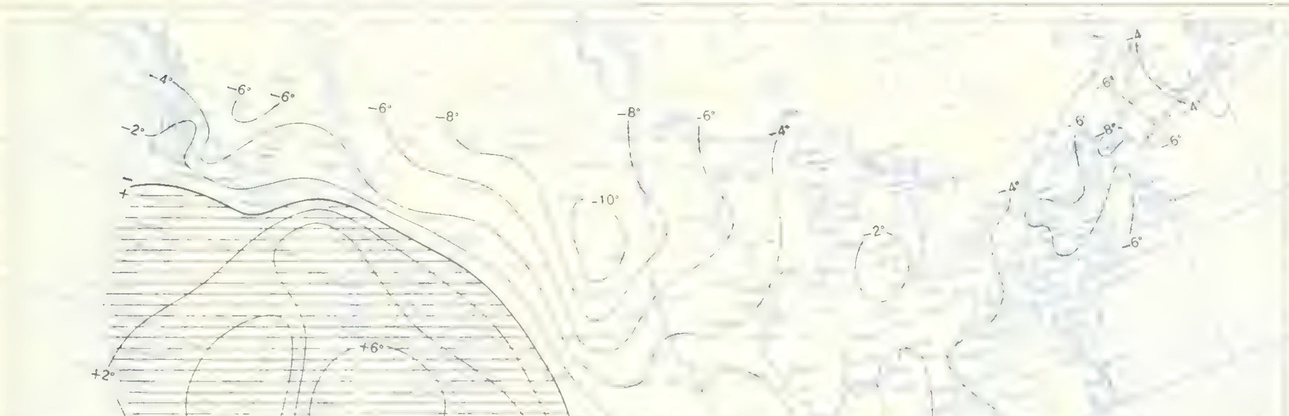
Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Corrected data.

Chart I. A. Average Temperature (°F.) at Surface, December 1955.

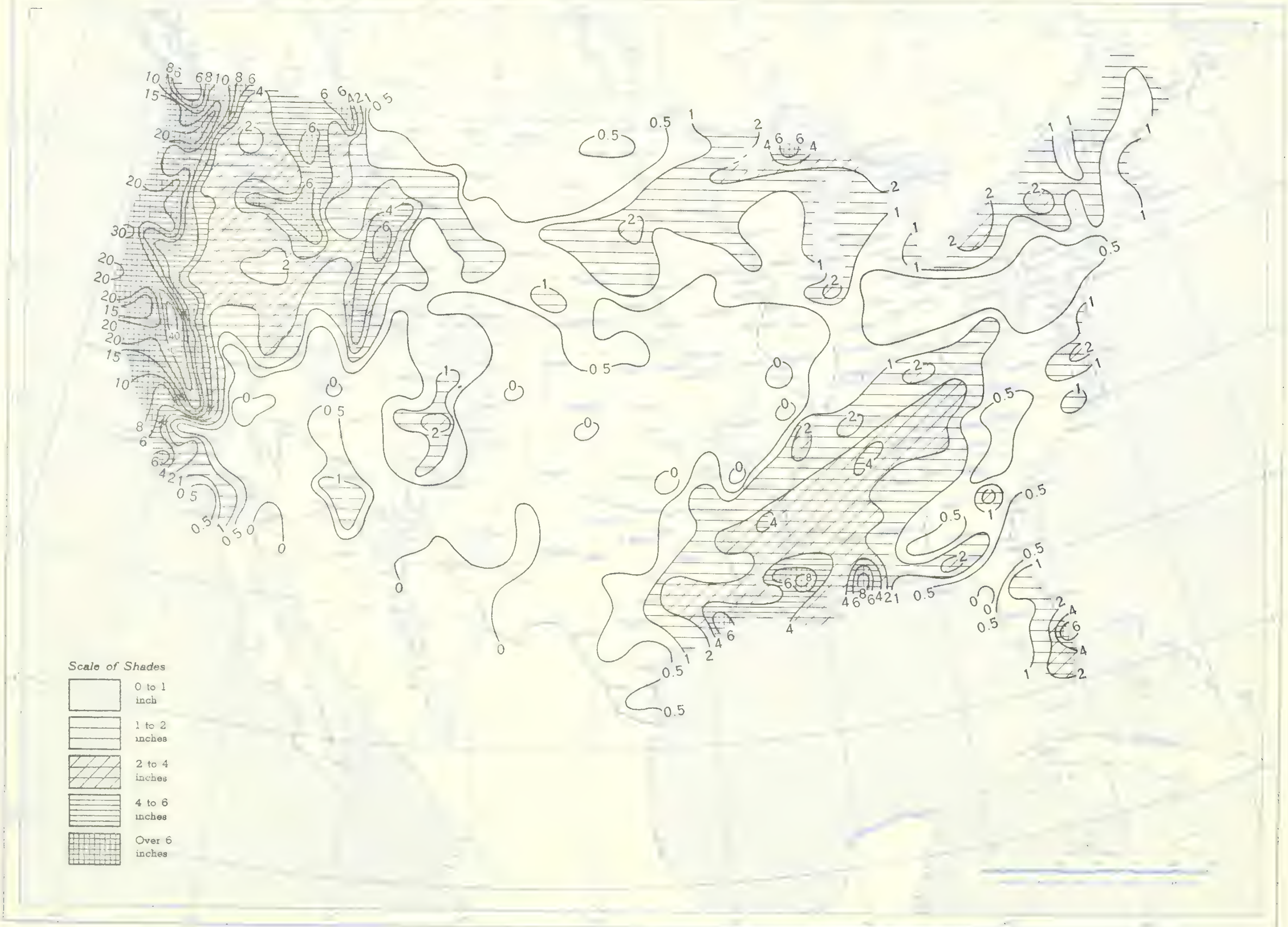


B. Departure of Average Temperature from Normal (°F.), December 1955.



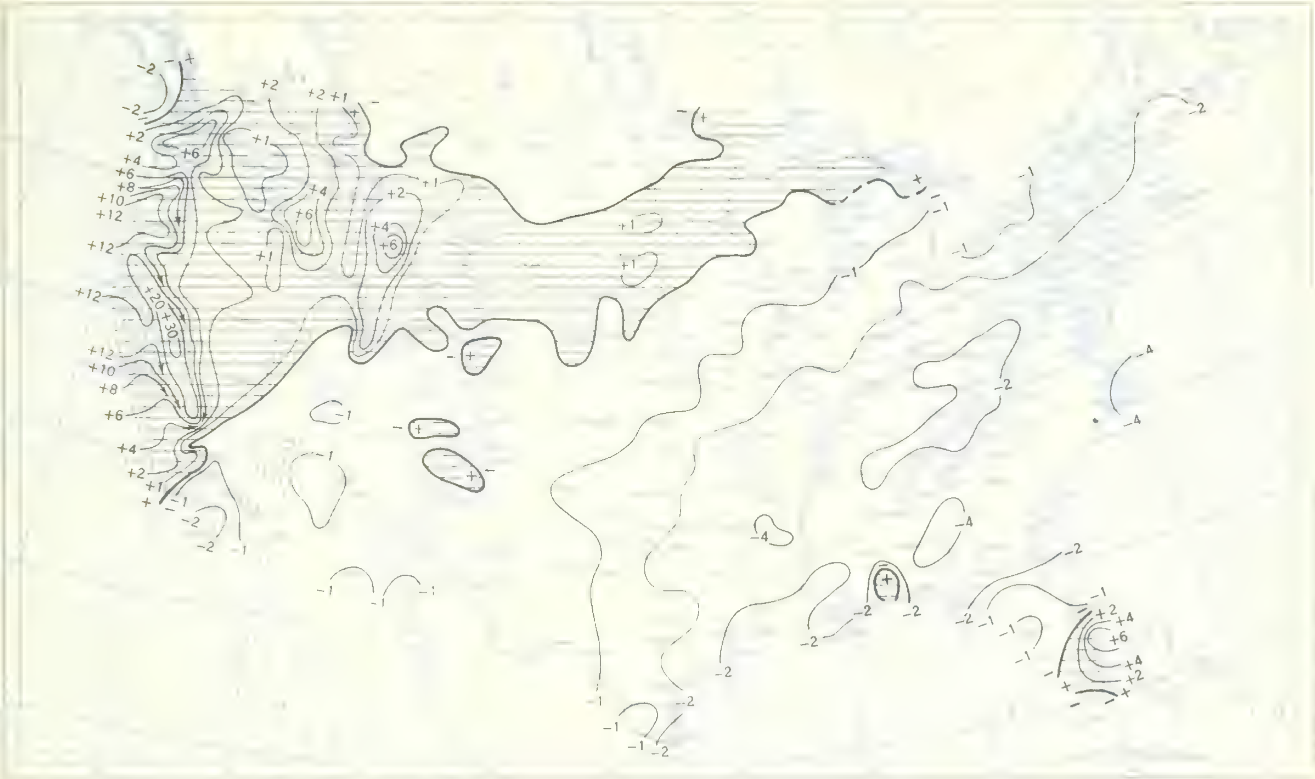
A. Based on reports from 800 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.
B. Normal average monthly temperatures are computed for Weather Bureau stations having at least 10 years of record.

Chart II. Total Precipitation (Inches), December 1955.

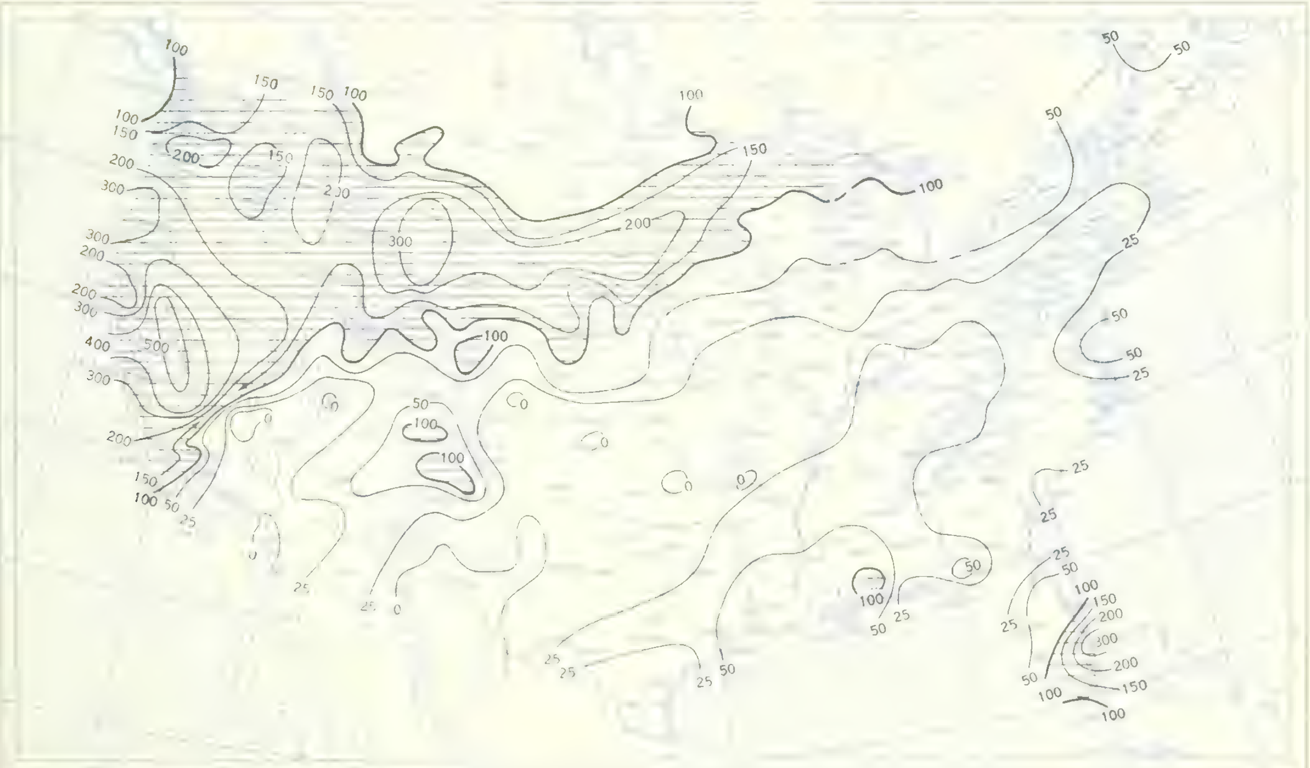


Based on daily precipitation records at 800 Weather Bureau and cooperative stations.

Chart III. A. Departure of Precipitation from Normal (Inches), December 1955.

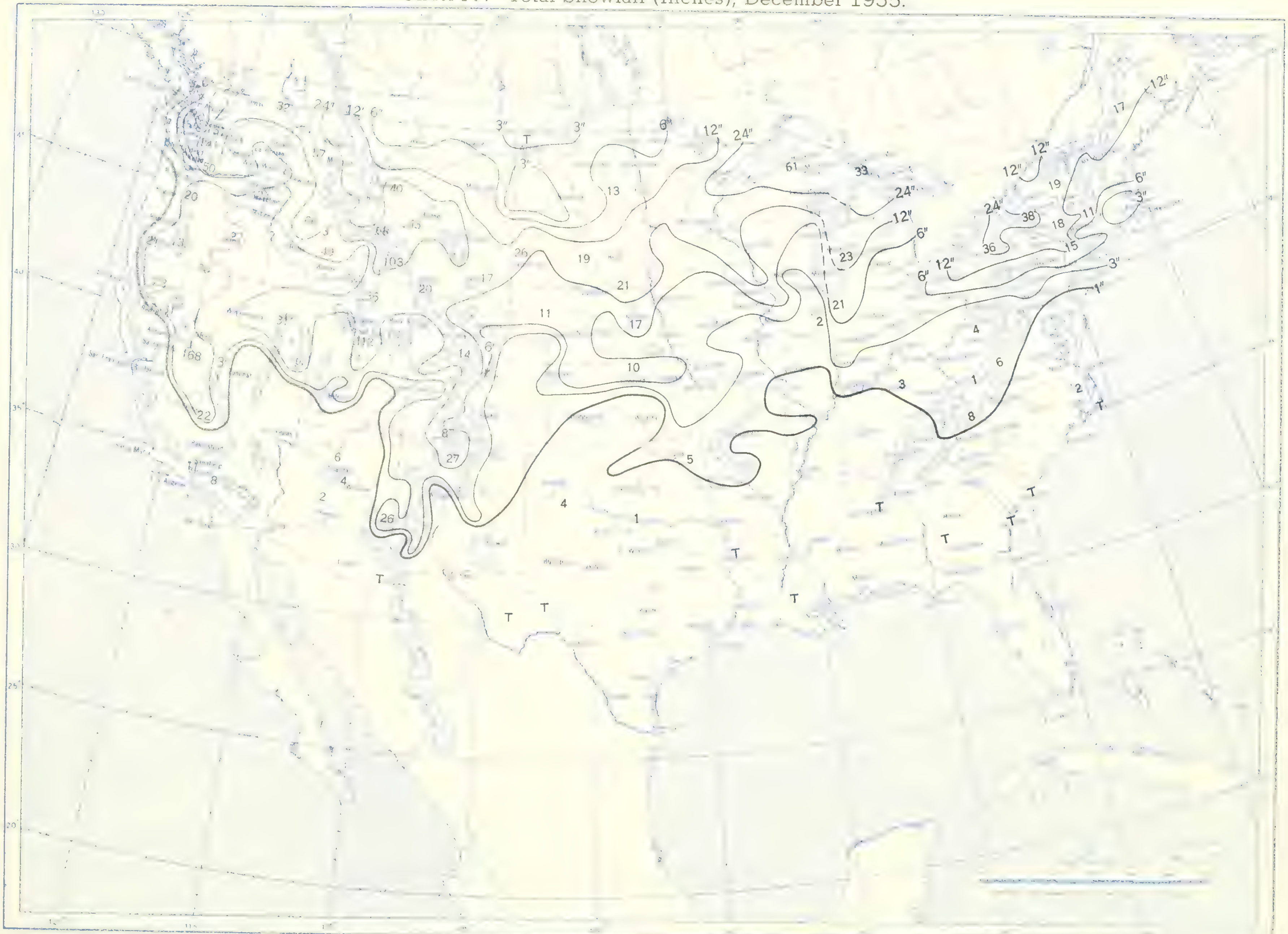


B. Percentage of Normal Precipitation, December 1955.



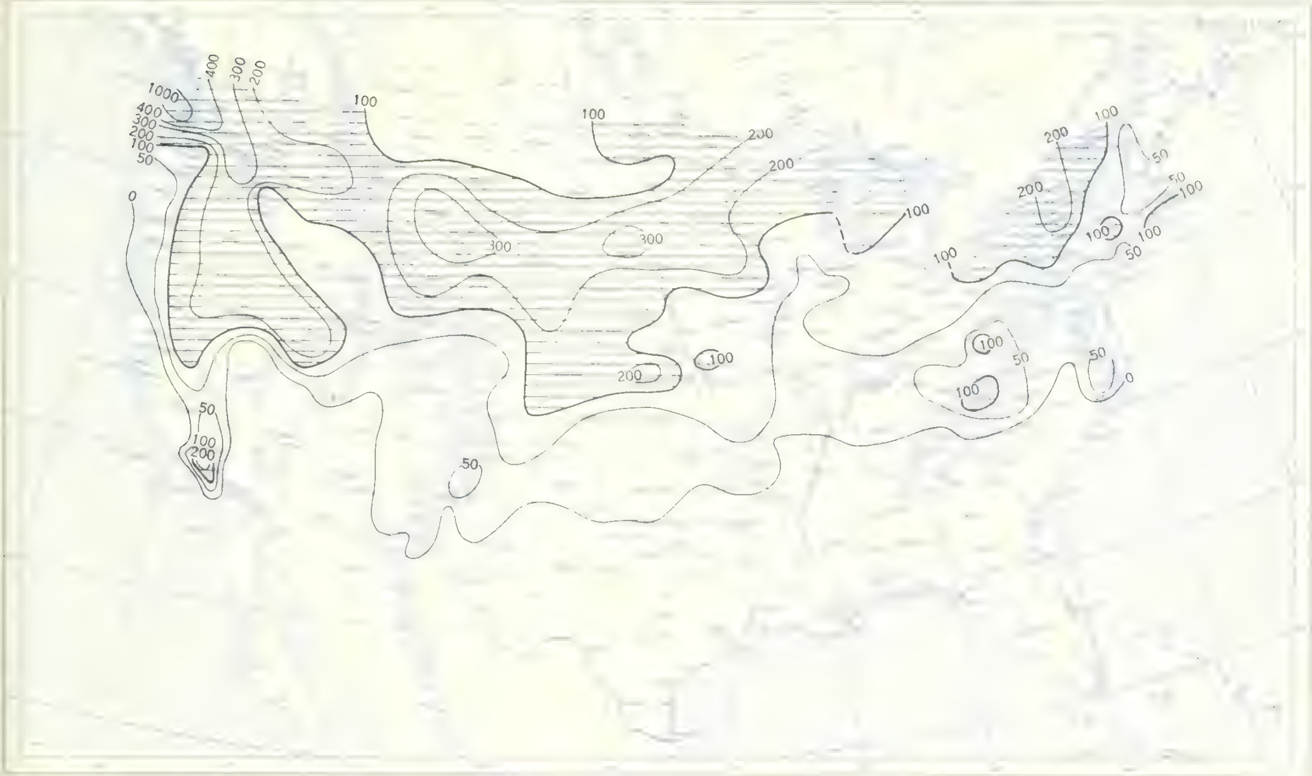
Normal monthly precipitation amounts are computed for stations having at least 10 years of record.

Chart IV. Total Snowfall (Inches), December 1955.

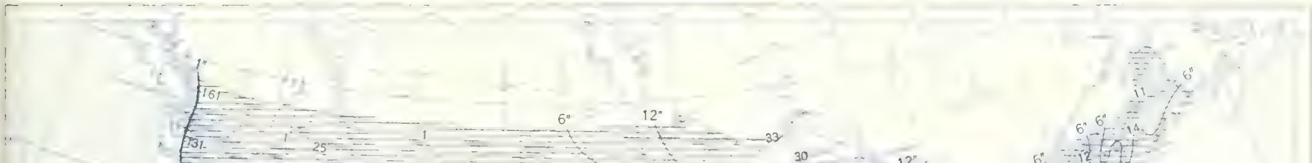


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Normal Snowfall, December 1955.

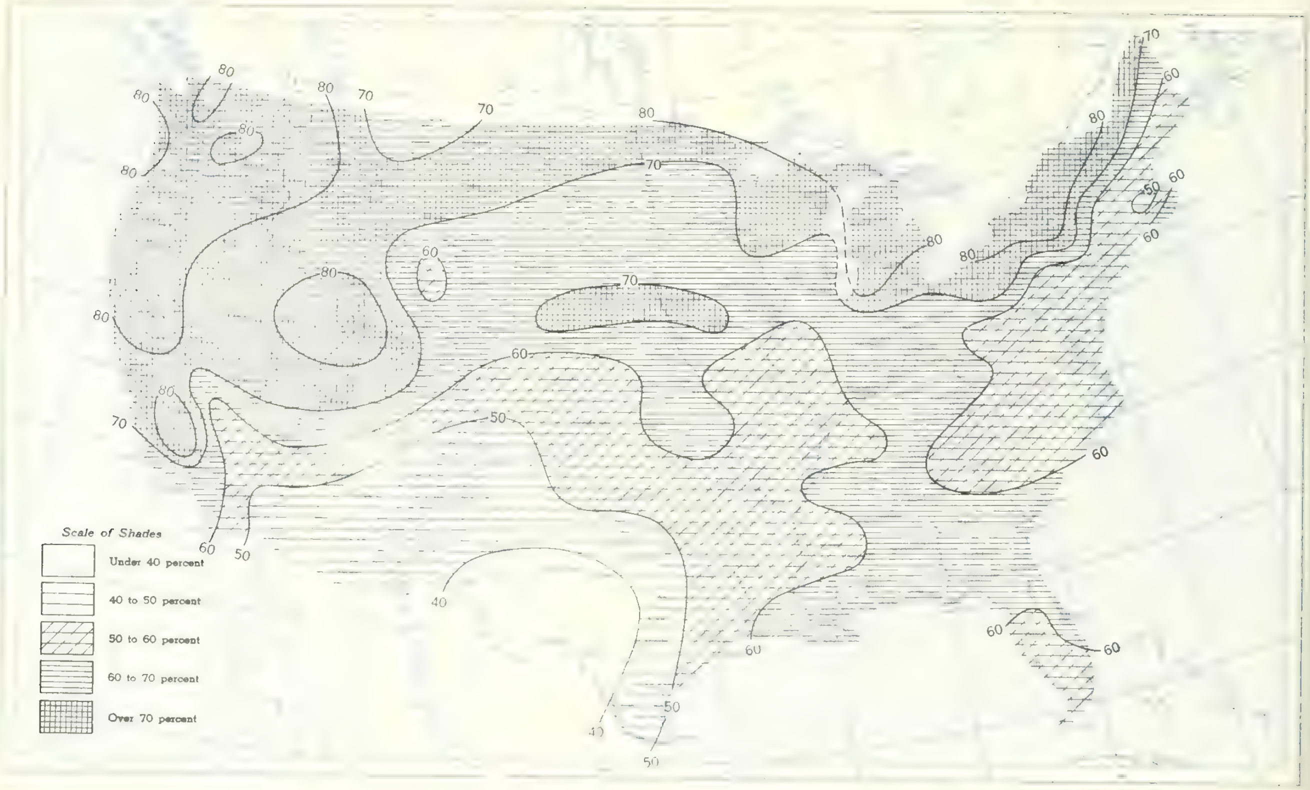


B. Depth of Snow on Ground (Inches). 7:30 a. m. E. S. T., December 26, 1955.

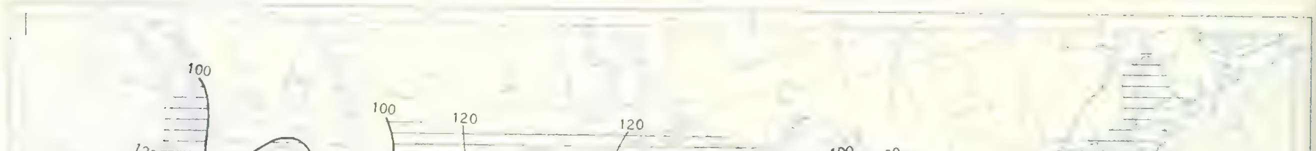


A. Amount of normal monthly snowfall is computed for Weather Bureau stations having at least 10 years of record. B. Shows depth currently on ground at 7:30 a. m. E.S.T., of the Tuesday nearest the end of the month. It is based on reports from Weather Bureau and cooperative stations. Dashed line shows greatest southern extent of snowcover during month.

Chart VI. A. Percentage of Sky Cover Between Sunrise and Sunset, December 1955.

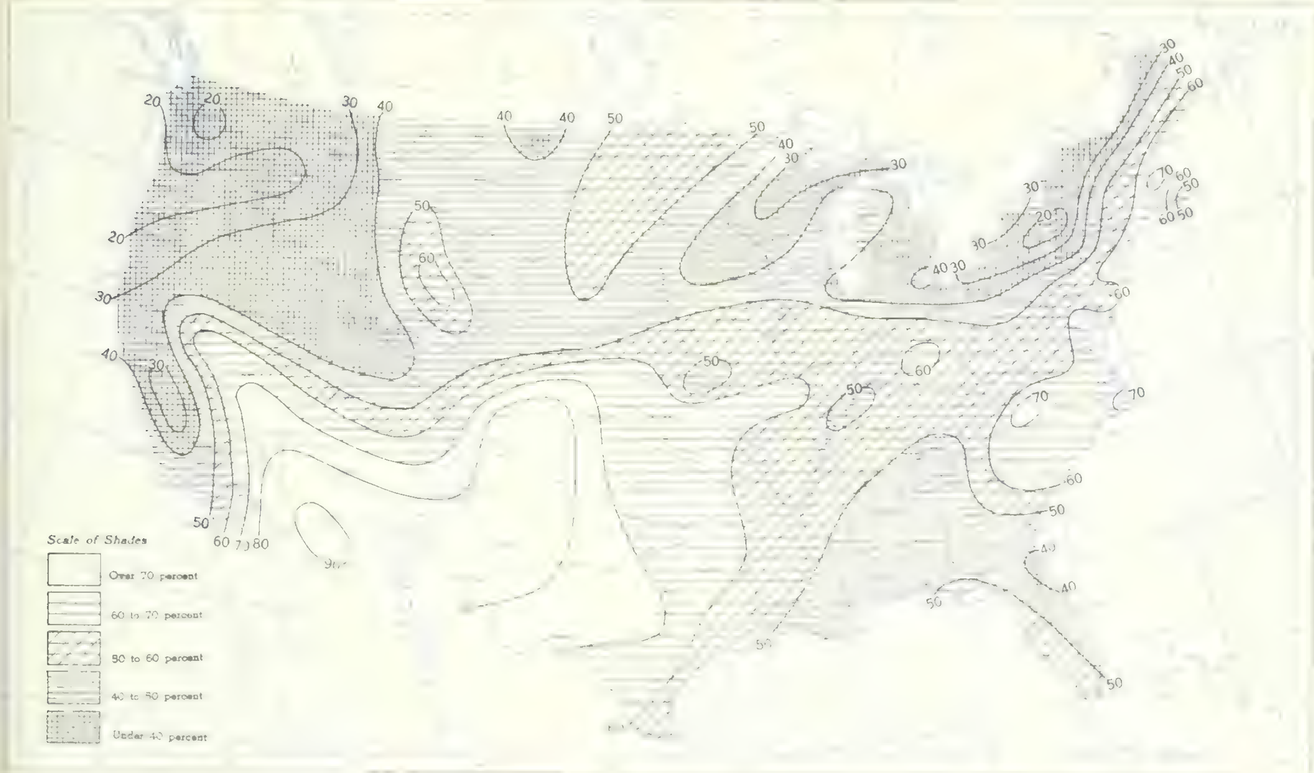


B. Percentage of Normal Sky Cover Between Sunrise and Sunset, December 1955.

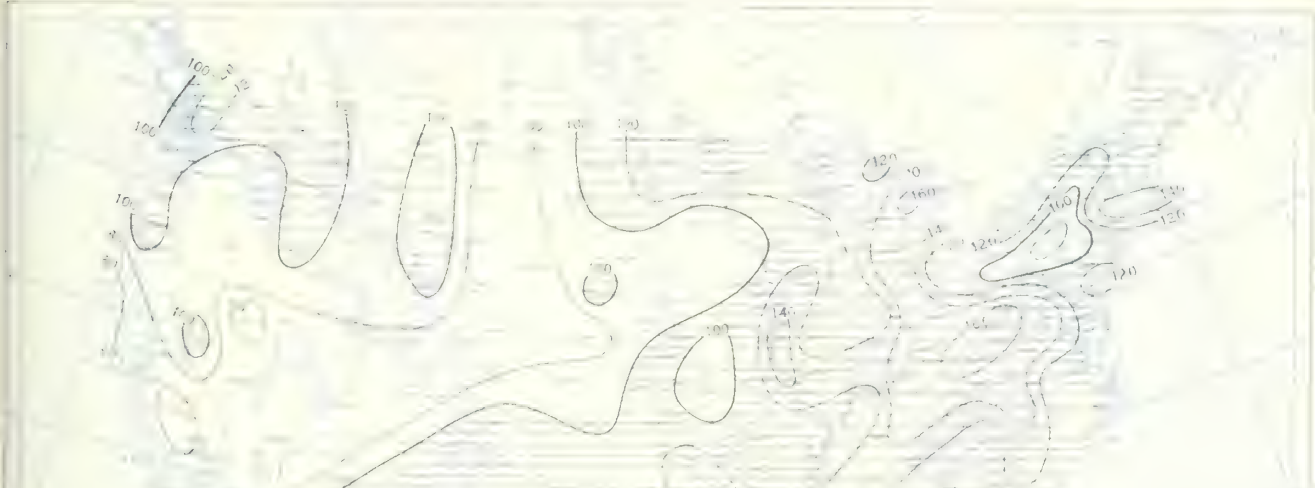


A. In addition to cloudiness, sky cover includes obscuration of the sky by fog, smoke, snow, etc. Chart based on visual observations made hourly at Weather Bureau stations and averaged over the month. B. Computations of normal amount of sky cover are made for stations having at least 10 years of record.

Chart VII. A. Percentage of Possible Sunshine, December 1955.



B. Percentage of Normal Sunshine, December 1955.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Normals are computed for stations having at least 10 years of record.

Chart VIII. Average Daily Values of Solar Radiation, Direct + Diffuse, December 1955. Inset: Percentage of Normal Average Daily Solar Radiation.

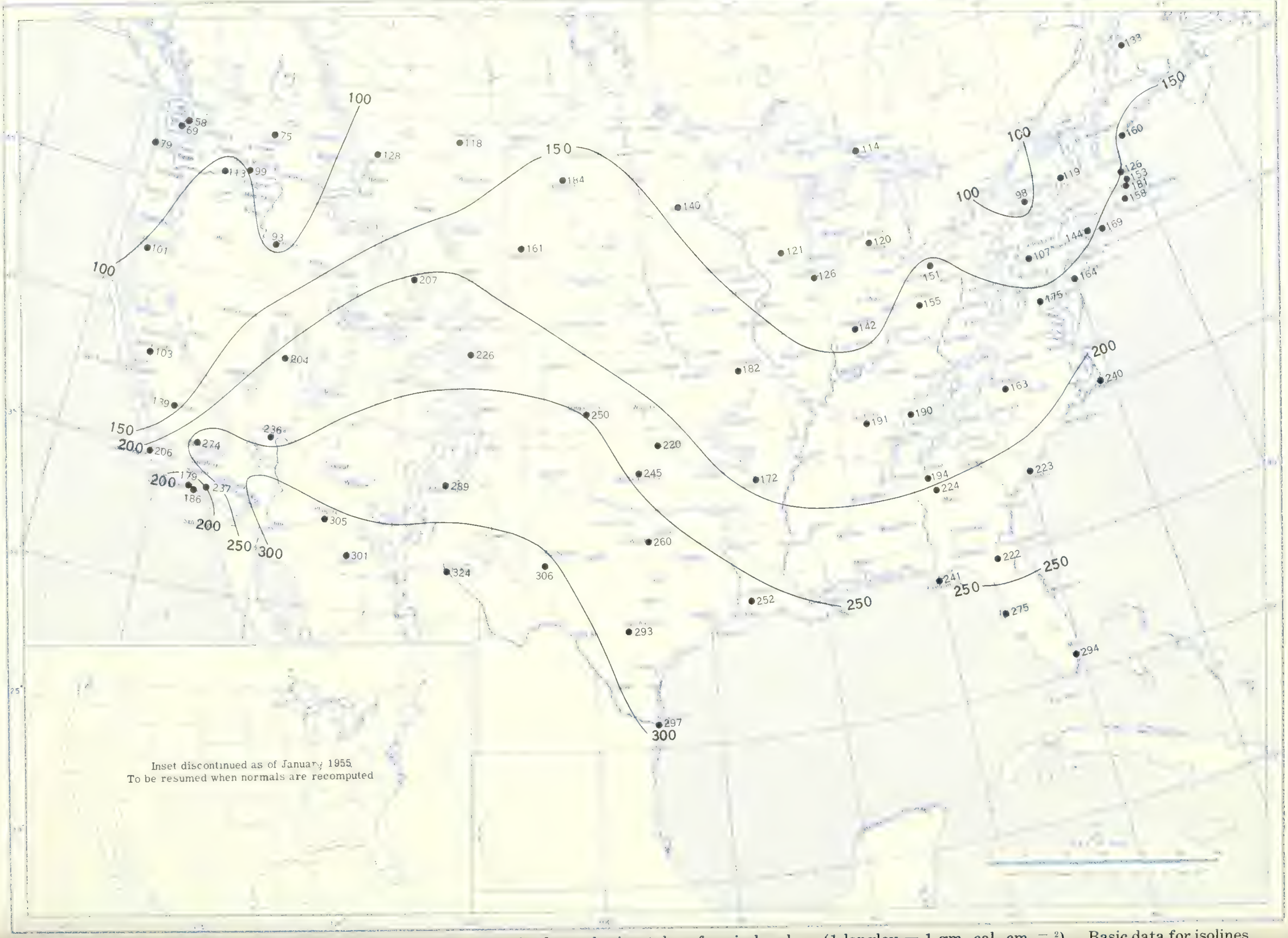
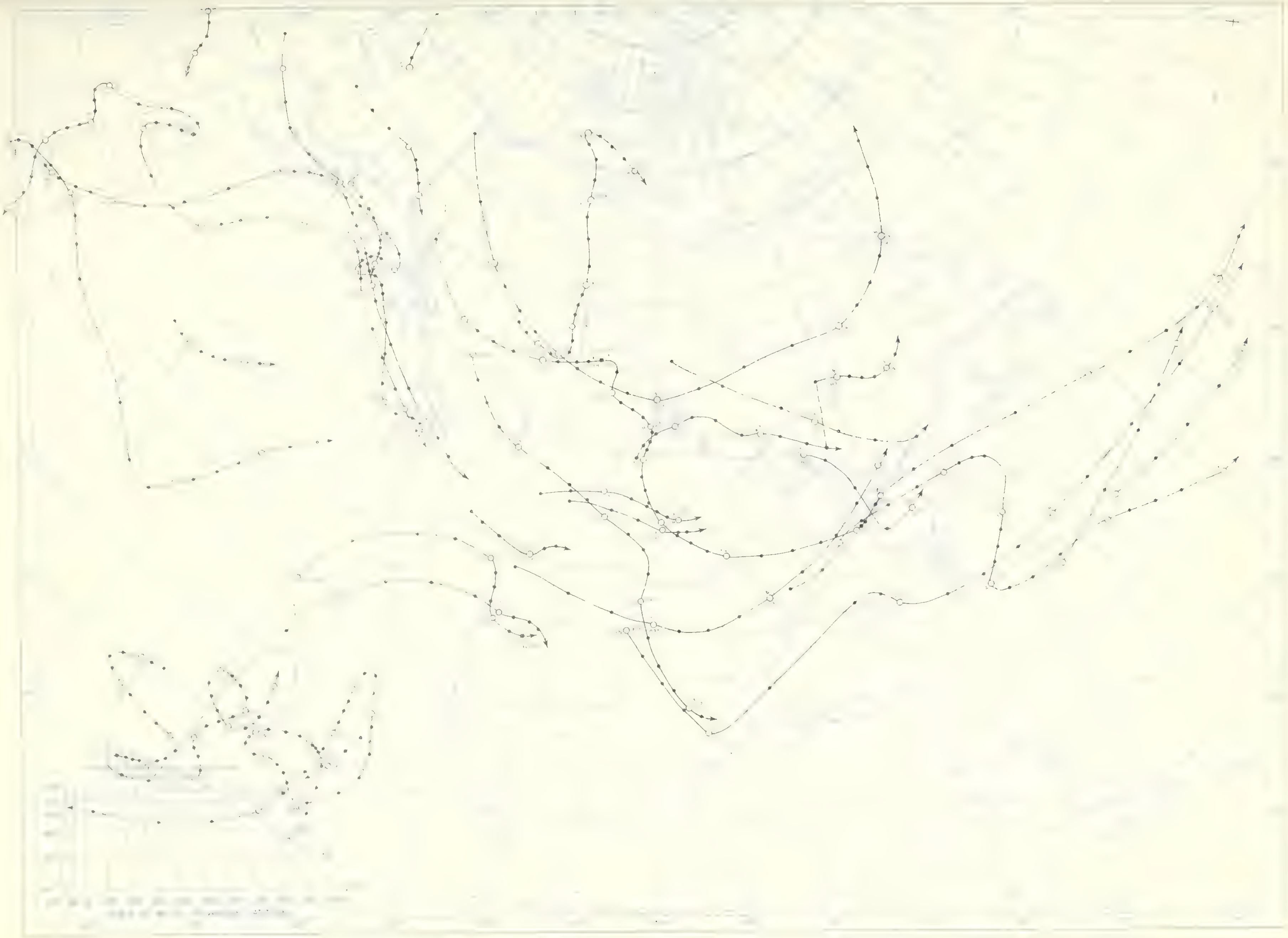


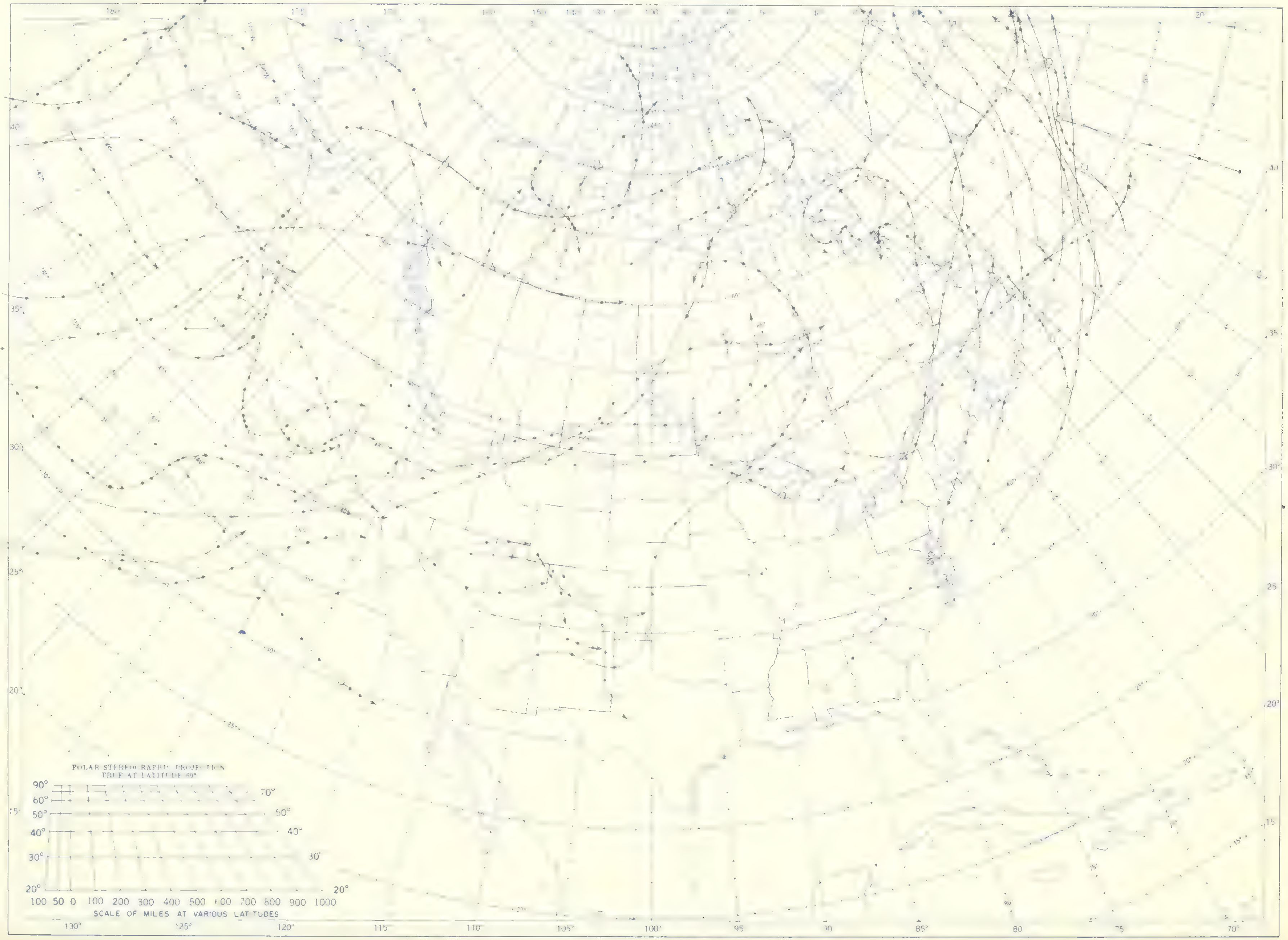
Chart shows mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$). Basic data for isolines

Chart IX. Tracks of Centers of Anticyclones at Sea Level, December 1955.



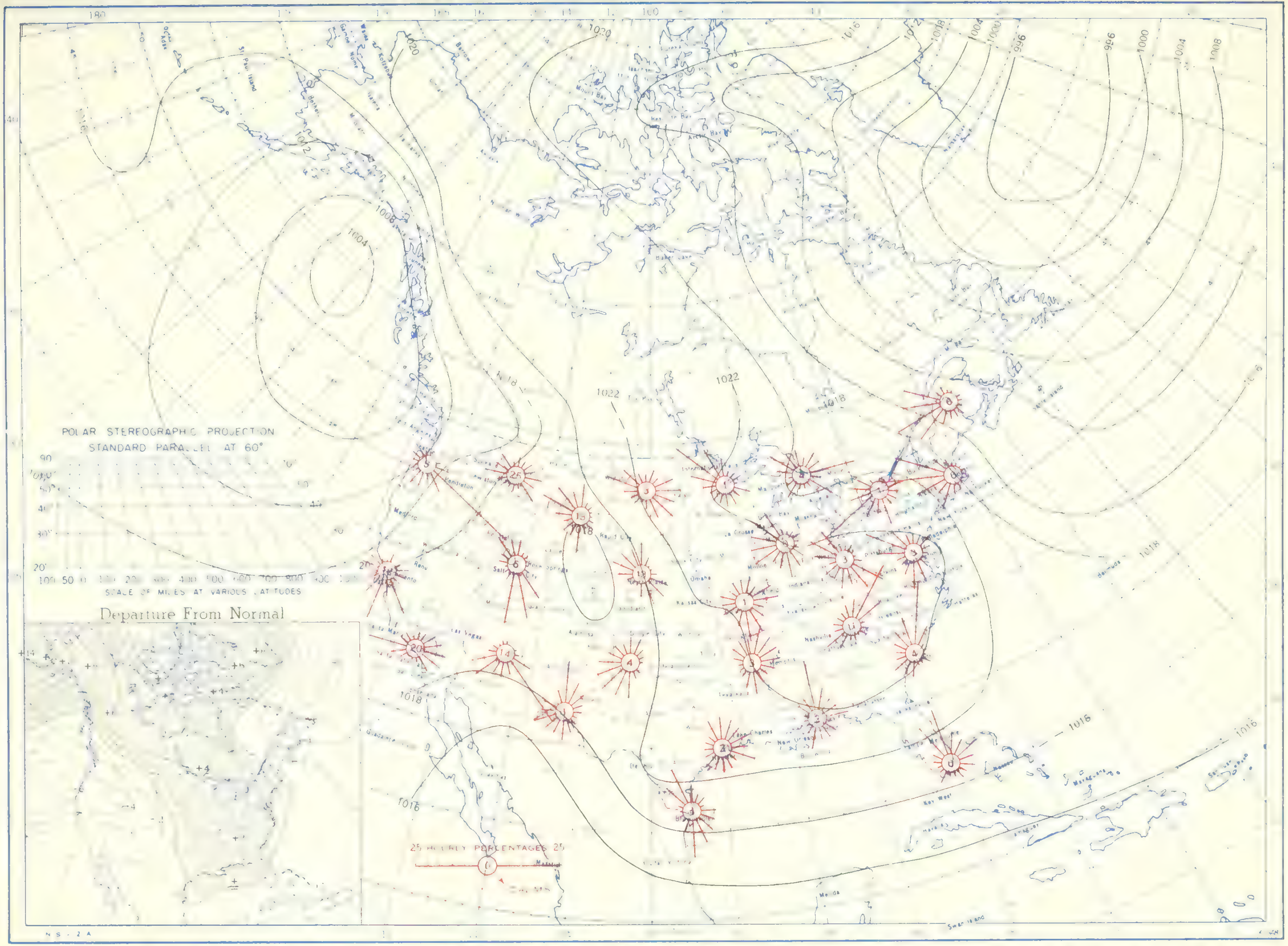
Circle indicates position of center at 7:30 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart X. Tracks of Centers of Cyclones at Sea Level, December 1955.



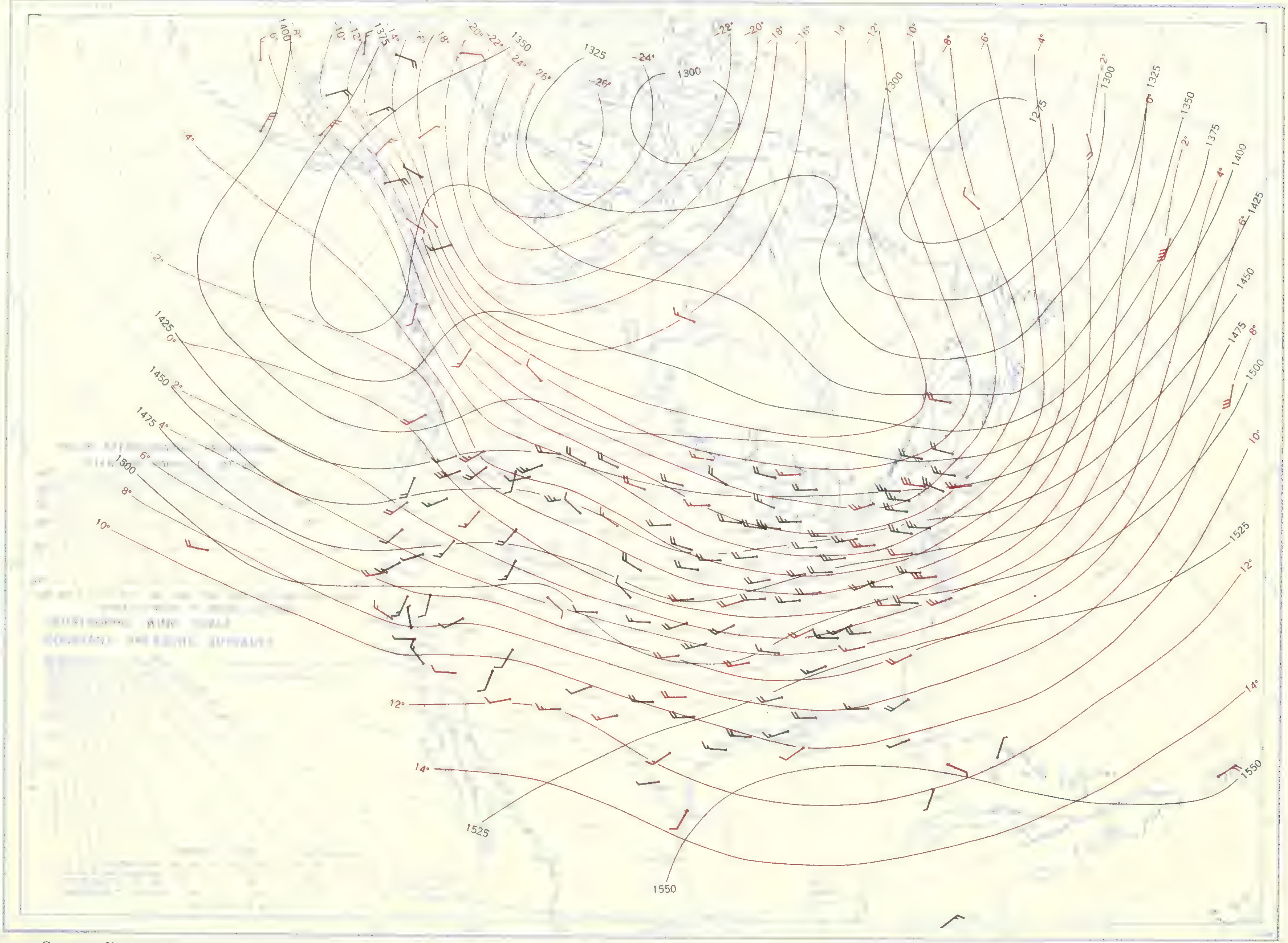
Circle indicates position of center at 7:30 a. m. E. S. T. See Chart IX for explanation of symbols.

Average Pressure (mb.) from Normal, December 1955.



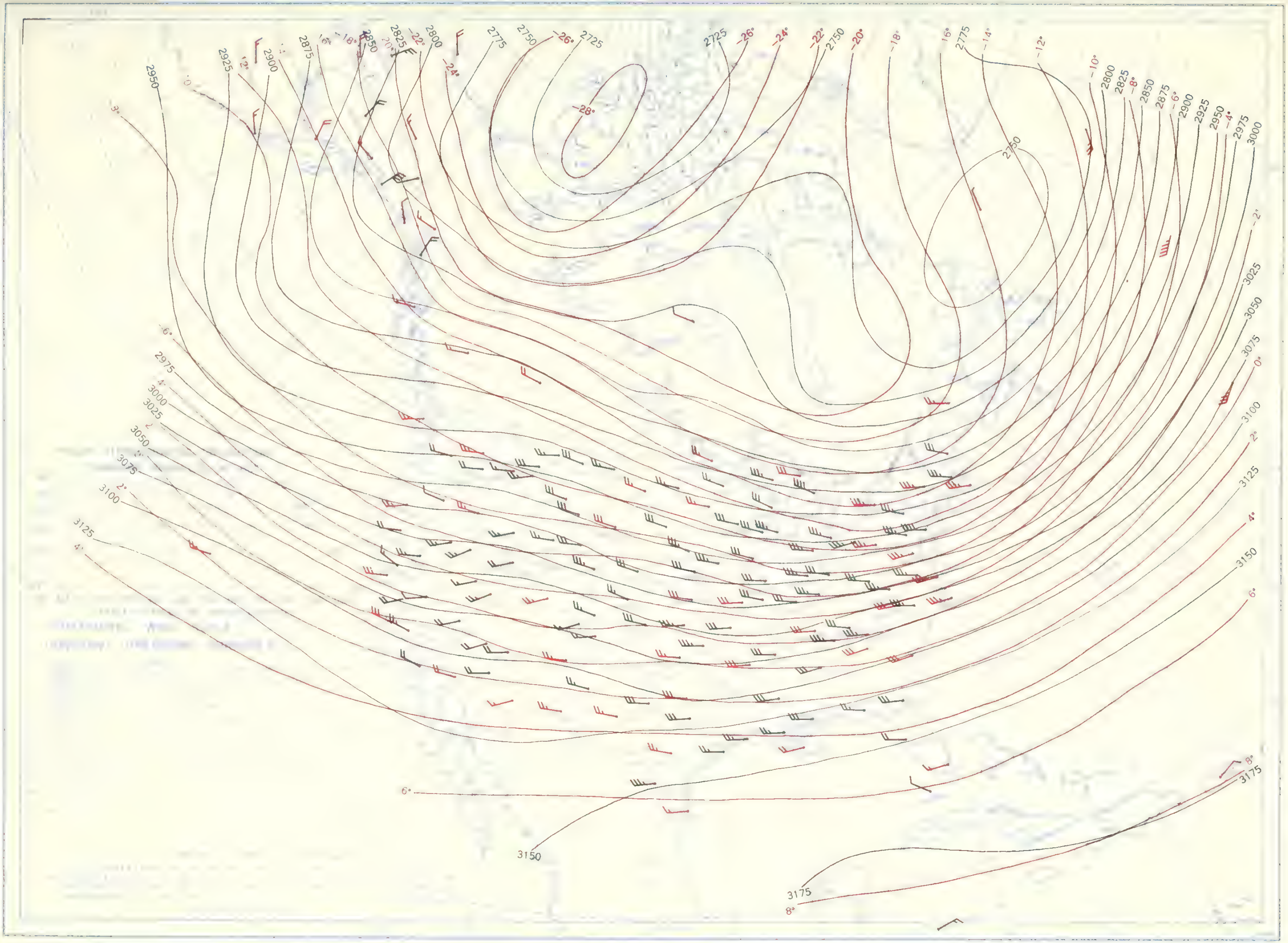
Average sea level pressures are obtained from the averages of the 7:30 a.m. and 7:30 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XII. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 850-mb. Pressure Surface, Average Temperature in °C. at 850 mb., and Resultant Winds at 1500 Meters (m.s.l.), December 1955.



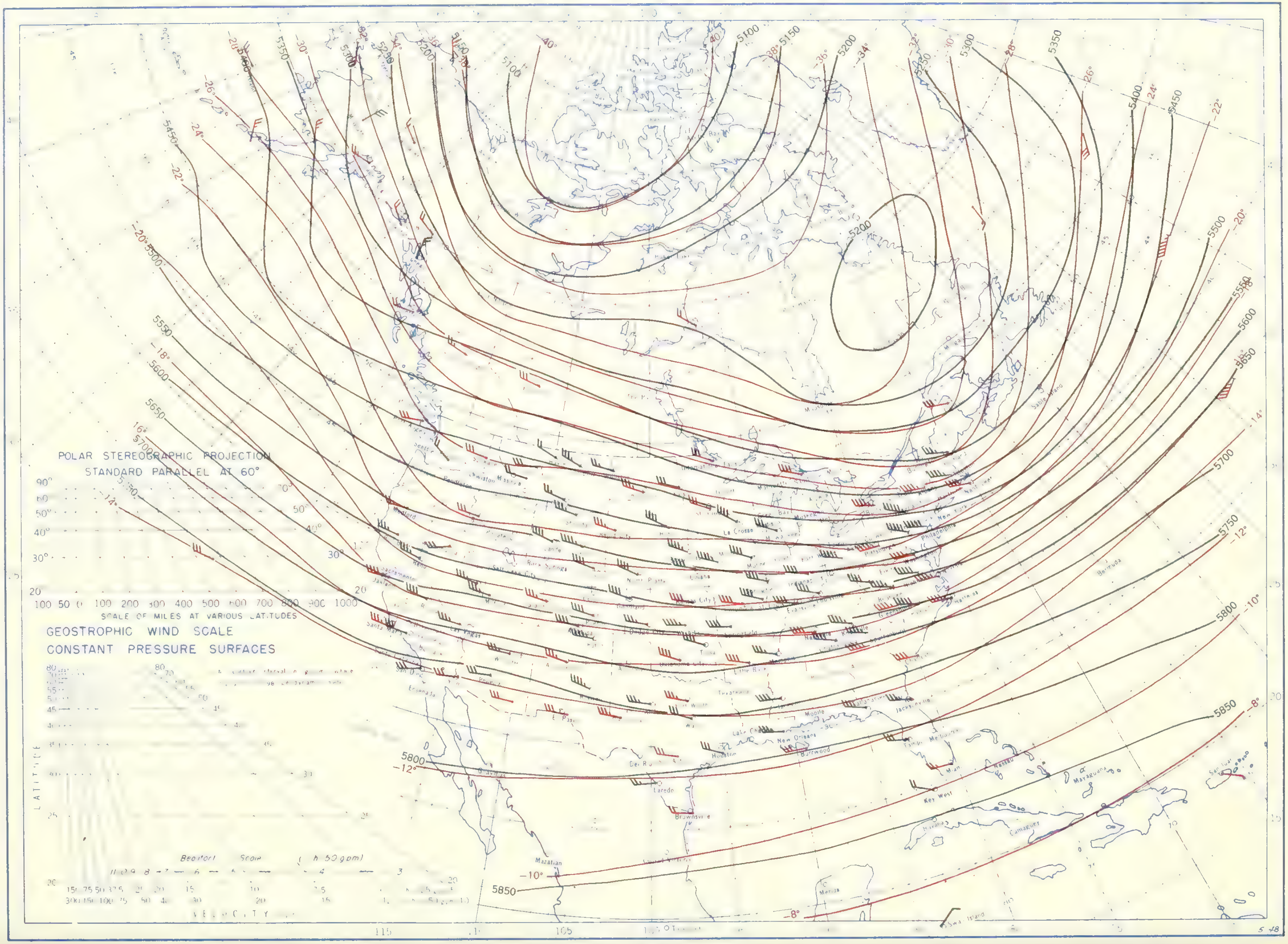
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;

Surface, Average Temperature in °C. at 700 mb., and Resultant Winds at 3000 Meters (m.s.l.), December 1955.



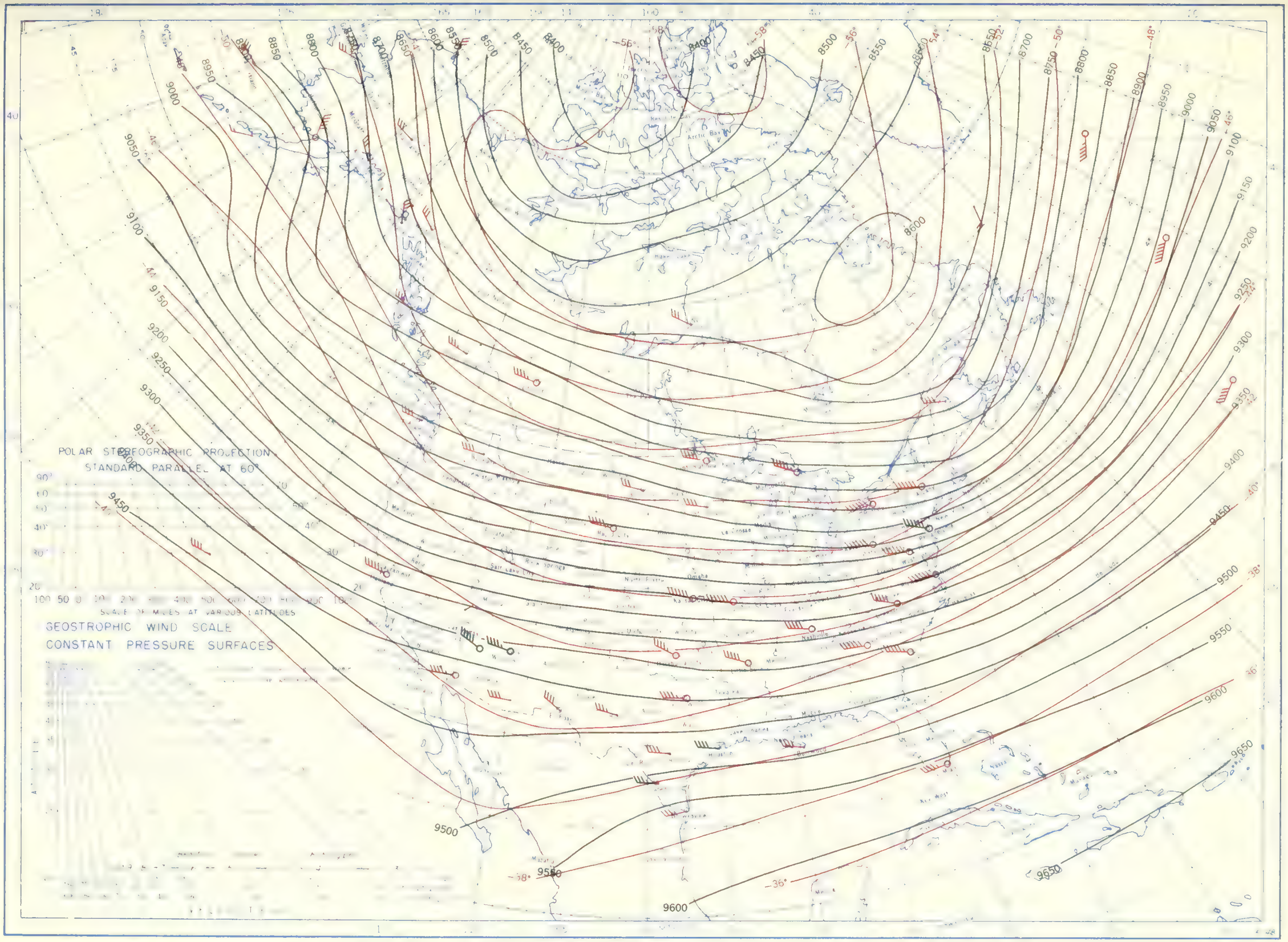
Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins taken at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

Chart XIV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 500-mb. Pressure Surface, Average Temperature in °C. at 500 mb., and Resultant Winds at 5000 Meters (m.s.l.), December 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.;

Chart XV. Average Dynamic Height in Geopotential Meters (1 g.p.m. = 0.98 dynamic meters) of the 300-mb. Pressure Surface, Average Temperature in °C. at 300 mb., and Resultant Winds at 10,000 Meters (m.s.l.), December 1955.



Contour lines and isotherms based on radiosonde observations at 0300 G. M. T. Winds shown in black are based on pilot balloon observations at 2100 G. M. T.; those shown in red are based on rawins at 0300 G. M. T. Wind barbs indicate wind speed on the Beaufort scale.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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GENERAL SUMMARY OF WEATHER CONDITIONS

Temperatures for 1955 averaged unusually low in e Far West and the Florida Peninsula, well above rmal in the Great Lakes region and Northeast, d near normal elsewhere. Precipitation totals re far in excess of the usual amounts in the cific States, the northern Rocky Mountain region, d in parts of eastern New York and southern New gland, but were greatly deficient in Iowa, ssouri, and the central and lower Great Plains.

The seasons were featured by an unusually cool ring and summer in the Northwest, a spring ought in the western portions of the lower Great ains, a hot, humid summer in the northeastern arter of the Nation, and a fall drought in the xas and Oklahoma Panhandles and adjoining areas.

Other highlights of short duration, and more or ss localized, included August and October floods southern New England and adjoining areas. De-mber floods in California and Oregon, a March eeze in the Southeast, a November freeze in the rthwest, California's heat wave and forest fires September, Hurricane Ione which struck coastal eas of North Carolina and Virginia a damaging ow in September, and a July thundershower which t a new world's record for rainfall intensity Jefferson, Iowa.

The year's weather, from an agricultural stand-int, was very favorable as reflected in total op production near the record of 1948. This tisfactory result was due in great measure to mely and well distributed rainfall which pre-nted serious drought from developing in large eas during the critical growing season as it d in the three previous years. Nevertheless, ought and wind erosion during the spring and rly summer ruined or damaged millions of acres winter wheat in the lower Great Plains, and at and drought during July and August sharply t the corn crop in the western portion of the rn Belt and grain sorghums in the central Great ains.

January and February passed without any extra-dinary weather events, although cold, blustery ather prevailed in the western half of the tion during most of the latter month and the rthern Great Plains had heavy snows and blizzards om the 18th to the 20th.

March, more than living up to its reputation as month of extremes, started off with floods in e Ohio River which caused damage estimated at veral millions, but unleashed its most violent ather during the last decade when blizzards ept the Great Plains as far south as Oklahoma d severe winds, tornadoes, glaze, heavy snow, d record cold caused damage in other sections taling millions of dollars. The greatest damage, timated at $50,000,000, resulted from the severe ld spell from the 26th to the 29th in the south-n Great Plains and South including the lower ssissippi and Ohio Valleys. Temperatures which nged from a record March low of -30° for Helena, nt., on the 25th to a late season low of 30° for w Orleans, La., on the 27th caught many crops in advanced stage of development due to record-breaking warm weather earlier in the month. Tung nuts and fruits, particularly peaches, which had reached the blossom stage were virtually all killed in the Gulf and South Atlantic States, and peaches were severely damaged in lower elevations northward to southern Illinois and southeastern Virginia.

During April and May occasional strong winds continued to whip up severe duststorms in the Great Plains and Southwest. Of greater importance, however, was the combination of generous rainfall and above-normal temperatures which furnished the basis for an excellent crop outlook in the eastern agricultural half of the Nation.

June was an unusually cool and pleasant month over virtually the entire Nation. During July and August the weather east of the Rocky Mountains was characterized by a prolonged and persistent heat wave which was very unusual in that it was unaccompanied by any record-high temperatures or drought. August was also notable for hurricanes Connie and Diane which together dumped over 20 inches of rain in parts of the Northeast, resulting in one of the worst weather-caused disasters in the history of the United States when streams overflowed in southern New England, New Jersey, and parts of New York, and Pennsylvania resulting in the death of about 200 persons and property losses estimated in excess of three-quarters of a billion dollars. Heavy rainfall during July and August occurred in Arizona after the beginning of the summer thunderstorm season on July 10, and beneficial amounts fell in surrounding areas.

September weather was highlighted by a record heat wave in the Far West during the first 12 days. This heat wave was responsible for an all-time high temperature of 110° in downtown Los Angeles, Calif., on the 1st, and it created an extremely high fire hazard in California where over 400 forest fires caused unprecedented losses. Hurricane Ione headlined the weather news on the 19th when its center moved across the north coastal area of North Carolina, causing damage in that state estimated at $88,000,000.

While southern New England was still recovering from the disastrous floods in August, another storm on October 14, 15, and 16 again brought more than 10 inches of rain resulting in major floods which caused more than 30 deaths and property losses estimated at many millions of dollars.

September and October, the first 2 fall months, were characterized by mild temperatures and ample periods of dry weather favorable for fall harvesting over most of the country. Crops reached maturity before the first freezes even though they came about 2 weeks early in parts of the South.

Unusually persistent, below-normal temperatures gave the Nation one of its coldest Novembers on record. In the Pacific Northwest record breaking cold was responsible for heavy agricultural losses. Cold weather continued until the middle of December when a change to milder temperatures occurred.

The change began in the Far West where it was ushered in with heavy rains. In northern California over 30 inches of rain in a 10-day period resulted in floods which were responsible for more than 50 deaths and preliminary damage estimates in excess of $100,000,000. Milder weather reached eastern sections of the Nation around Christmastime as many stations in the South and Southeast reported their highest temperatures on record for December 25. As the year ended, drought was developing in the Plains west of a line from Texas to Illinois and along the Eastern Seaboard.

PRECIPITATION.--Precipitation for 1955 was above normal in the Pacific States (except the southern third of California), along the Canadian Border from Washington to northern Wisconsin, western portions of Nebraska and Oklahoma, central Colorado, in a belt extending from northern Mississippi through most of Tennessee, Kentucky, and Indiana and parts of Illinois and Ohio, and another belt in the East extending from coastal areas of the Carolinas northward through eastern Virginia, Maryland, most of New York and New Jersey, and the western and southern portions of New England. Elsewhere totals were below normal. Less than 75 percent of the normal amounts fell in southern Missouri, parts of the southern Rockies, and in a belt extending from northern Iowa and eastern Nebraska southward through the western portion of the lower Great Plains and including much of southern and eastern Texas.

The most serious drought conditions developed in western portions of Texas, Oklahoma, and Kansas, and eastern portions of New Mexico and Colorado during the spring months, and in northeastern New Mexico, southeastern Colorado, southwestern Kansas, and the northern portion of the Texas Panhandle in the fall. Drought threatened in several other areas during the year, but owing to timely rains usually failed to reach serious proportions.

A few local rainfalls of high intensity were of more than usual interest. The most notable was that recorded in Jefferson, Iowa, on July 10 when 0.69 inch of rain fell in one minute, setting a new world's record for rainfall intensity. On the same date an unusually high rate of rainfall at Sioux City, Iowa, caused damage estimated at $1,500,000. A 1-inch rainfall in 5 minutes set a new record at New Orleans, La., on February 5. A million dollar flash flood occurred in Little Rock, Ark., on May 26 when 3 inches fell in an hour, 4.60 inches in 2 hours, and 7.70 inches in 6 hours, all new records there. Las Vegas, Nev., had a $1,500,000 flash flood on June 13.

SNOWFALL.--Snowfall for 1955 in the Cascade and Sierra Nevada Mountains and the central and northern Rocky Mountains was generally above normal, with many stations measuring unusually heavy annual falls. The most outstanding total was 903 inches measured at Paradise Ranger Station, Wash., which is 19 inches more than the 884-inches record seasonal fall at Tamarack, Calif., in 1906-07. Other large falls included Crater Lake, Oreg., 640 inches; Twin Lakes, Calif., 502; Stibnite, Idaho, 364; Kings Hill, Mont., 303; Snake River, Wyo., 285; Wolf Creek Pass, Colo., 435; and Silver Lake, Utah, 463 inches.

In the central interior yearly falls ranged from an inch or two in the northern portions of the southern states up to 224 inches at Houghton Mich. In southern areas from one-half to nearl all the snowfall occurred in January.

In the Appalachian region falls ranged fro about 3 inches in central Georgia up to 259 inche at Boonville, N. Y. On January 23 a little sno fell in some sections of northern Florida. Durin another storm in this State in March one inch fel at Marianna (greatest total for year) and flurrie were reported as far south as Polk County.

TEMPERATURE.--Temperatures for 1955 average below normal in the Florida Peninsula, the norther Great Plains, and west of the Continental Divide and above elsewhere. Anomalies ranged from 2 above normal in northern Michigan to 3° or mor below in the northern Rockies and Pacific North west. Extreme readings for the year, rangin from 123° at Greenland Ranch, Calif., on June to -48° at West Yellowstone, Mont., on Decembe 15, were well within the limits of former records

Relatively cool weather was unusually persisten in the Far West, particularly in central an northern coastal sections where only two pro nounced warm spells occurred - these in earl September and late December - and monthly average showed minus departures for eleven of the twelv months. For Washington the months of March April, and November were the coldest on recor and the average for May equaled the former record West of the Great Lakes November was the coldes since 1896, and a cold snap about midmonth cause severe crop damage in Oregon and Washington wit losses in the latter state estimated at $11,000,000

In the Great Plains temperatures showed the usua fluctuations during the year, with February, June and November decidedly colder than normal whil the remaining months were mostly on the warm side From the Mississippi Valley eastward, January November, and December were decidedly cold, a were also June and October except in extrem northern areas. July, August, and the latter par of June were unusually warm and humid in middl and northern sections of this area. Also a war spell in the latter half of December brought th warmest Christmas day on record to many souther stations. Other than the March freeze alread mentioned, freezes also caused light to locall heavy crop damage in Florida on January 14-1 30-31 and on February 12-13.

DESTRUCTIVE STORMS.--During 1955 damage cause by high winds, lightning, hail and tornadoe amounted to about one-half billion dollars. Ove $400,000,000 of this total was attributed to winds over $50,000,000 to hail, and more than $30,000,0 to tornadoes. These storms were also responsibl for over 400 deaths and more than 8,000 injuries

The year's worst tornadoes struck Blackwell Okla., and Udall, Kans., on June 25, killing 1 persons and destroying property estimated a $10,225,000. The worst hailstorm caused $6,000,0 damage in Billings, Mont., and vicinity on July During November and December several periods high winds in the Northwest caused widespread dam age. Damage in California alone during the peri December 18 to 27 was estimated at $2,750,00 For details of storms see monthly issues of thi bulletin and the special articles in this issue

Table 1

AVERAGE TEMPERATURE

YEAR 1955

Section	January	February	March	April	May	June	July	August	September	October	November	December	Annual
labama	44.8	49.7	59.1	66.6	73.5	73.3	80.1	80.6	77.1	62.5	52.4	46.7	63.9
rizona	37.7	39.7	50.1	55.5	64.0	72.9	77.4	77.1	72.7	64.8	49.9	46.0	59.0
rkansas	41.5	43.6	53.0	65.5	71.6	73.1	81.7	79.4	75.7	61.8	49.4	41.1	61.5
alifornia	40.6	44.6	50.9	52.5	61.8	68.7	72.6	75.6	70.6	62.3	50.4	47.5	58.2
olorado	22.4	22.0	33.3	44.0	53.7	60.0	69.4	68.3	60.2	49.8	32.9	30.0	45.5
onnecticut	25.4	29.6	35.8	49.4	60.5	64.5	75.6	73.1	61.8	53.7	40.3	23.9	49.5
elaware	32.8	36.2	45.4	55.8	64.9	68.6	80.5	77.6	67.6	58.6	44.7	31.4	55.3
lorida	58.0	61.7	67.3	72.0	77.0	78.5	80.9	82.3	80.8	72.1	65.0	60.4	71.3
eorgia	46.4	51.3	59.8	67.3	73.7	74.3	80.2	80.8	76.2	63.8	54.0	47.2	64.6
daho	20.1	22.6	28.7	39.8	50.2	60.2	66.6	68.1	57.2	47.9	30.0	23.3	43.3
llinois	28.3	31.4	41.0	59.2	65.2	68.6	80.5	77.5	69.4	56.2	38.6	28.6	53.7
ndiana	28.0	31.7	41.1	57.7	63.8	67.2	79.2	76.5	68.6	55.4	38.9	28.8	53.1
owa	21.0	20.8	33.8	56.4	63.6	67.2	79.8	77.2	66.6	53.4	31.0	20.3	49.3
ansas	32.0	30.2	42.6	60.0	66.7	70.6	83.1	80.2	72.0	58.8	39.6	31.5	55.6
entucky	34.4	38.2	48.3	60.6	67.3	68.2	79.4	78.0	72.6	56.8	44.0	35.1	56.9
ouisiana	50.5	53.7	63.2	69.7	76.0	77.0	81.2	81.1	79.3	67.3	57.6	52.8	67.5
aine	17.6	22.0	27.2	42.1	55.4	62.5	70.3	68.0	56.4	47.1	34.7	15.6	43.2
aryland	32.6	35.2	45.7	56.8	65.2	67.9	79.8	77.0	67.6	57.9	43.5	31.4	55.1
assachusetts	25.9	29.5	35.4	47.6	59.9	64.4	74.6	72.3	61.2	52.9	39.6	24.1	49.0
ichigan	21.3	22.2	29.1	50.1	57.7	64.5	74.3	72.6	60.1	51.7	33.3	22.3	46.6
innesota	10.4	9.8	19.9	50.2	59.7	65.0	74.0	72.0	58.6	48.2	22.2	7.8	41.5
ississippi	45.6	49.7	59.9	67.4	74.6	74.9	80.8	80.4	77.9	64.0	53.7	48.0	64.7
issouri	33.0	34.3	44.8	62.0	67.1	69.6	81.4	78.3	72.0	57.8	41.6	32.6	56.2
ontana	20.3	18.0	23.2	41.3	50.4	58.9	66.8	67.9	54.7	47.4	19.6	17.4	40.5
ebraska	23.7	21.8	35.4	55.0	63.4	66.0	80.1	78.3	66.7	53.8	31.4	22.7	49.9
evada	24.4	29.9	39.5	45.0	55.1	65.2	71.1	73.3	63.8	54.6	39.5	35.8	49.8
ew Hampshire	18.9	24.0	29.5	44.8	58.1	63.5	72.1	69.9	57.4	48.3	34.8	16.9	44.9
ew Jersey	29.6	32.8	41.4	53.3	63.4	67.5	79.2	76.7	65.6	57.5	42.9	28.6	53.2
ew Mexico	32.4	33.3	44.9	51.9	59.7	68.2	71.8	71.7	66.9	56.6	43.5	38.9	53.3
ew York	20.1	24.2	32.3	48.9	59.1	64.9	74.1	72.3	59.6	52.4	36.6	20.8	47.1
orth Carolina	39.8	43.7	53.9	62.5	69.0	70.2	79.0	77.8	72.2	60.3	49.4	38.9	59.7
orth Dakota	11.2	7.5	18.6	48.1	57.5	62.1	71.4	71.2	56.6	47.3	15.4	5.5	39.4
io	28.1	31.8	40.9	56.5	63.1	66.4	77.4	75.6	67.5	54.8	39.3	29.3	52.6
lahoma	40.1	41.3	51.5	65.2	71.1	74.4	84.2	81.6	76.2	62.8	47.8	39.8	61.3
egon	30.7	32.7	36.5	41.5	50.5	60.2	63.0	65.1	58.3	50.3	36.5	34.4	46.6
ennsylvania	26.4	29.7	39.3	53.3	61.8	65.1	76.5	74.1	63.5	54.1	38.8	26.9	50.8
ode Island	28.0	31.5	37.0	47.5	58.5	63.9	74.1	72.2	62.3	54.5	41.1	25.8	49.7
uth Carolina	44.4	48.4	57.5	65.6	72.8	73.5	80.6	80.3	75.0	62.8	52.8	43.6	63.1
uth Dakota	20.8	15.4	29.0	52.6	61.5	63.8	76.8	76.0	62.2	51.3	23.3	13.8	45.5
ennessee	38.0	41.9	51.1	62.5	69.5	69.6	79.4	78.7	74.0	58.7	46.5	39.0	59.1
xas	46.9	49.4	59.0	68.9	74.9	78.5	82.4	81.9	78.1	67.1	55.4	49.4	66.0
ah	20.0	20.9	34.4	44.0	54.9	62.9	71.1	71.5	62.4	51.6	34.7	33.2	46.8
rmont	14.2	20.4	28.1	44.7	58.0	63.5	71.1	69.2	56.7	48.1	33.8	15.0	43.6
rginia	34.7	38.3	48.6	58.7	66.1	67.7	78.7	76.5	68.7	57.8	45.0	33.6	56.2
shington	32.0	33.1	35.0	42.9	50.7	60.6	63.3	64.6	58.7	48.9	32.6	30.0	46.0
st Virginia	30.4	34.6	44.1	56.3	63.5	64.3	76.1	74.9	67.3	55.0	40.7	30.3	53.1
sconsin	15.2	16.8	26.1	50.5	59.0	64.5	74.8	72.7	60.6	49.9	28.6	15.4	44.5
oming	19.2	18.7	24.7	40.4	51.7	57.3	68.2	68.0	56.2	47.0	25.6	24.0	41.8
aska	7.4	-3.0	9.7	19.0	36.9	46.6	54.1	48.8	41.6	24.3	2.1	5.4	24.4
waii	67.3	66.7	66.6	68.5	69.4	69.8	70.8	71.1	71.1	70.6	69.7	68.8	69.2
erto Rico	72.3	72.5	72.2	74.1	77.1	78.0	78.3	79.1	78.5	78.3	76.4	74.3	75.9

ble 2

DEPARTURES FROM NORMAL TEMPERATURE

Section	January	February	March	April	May	June	July	August	September	October	November	December	Annual
abama	-2.1	0.6	3.1	3.0	2.1	-5.1	-0.2	0.8	1.6	-2.4	-1.7	-0.9	-0.1
izona	-2.8	-5.3	-.3	-2.4	-1.8	-1.5	-2.8	-1.2	.0	3.0	.1	3.1	-1.0
kansas	.1	-.9	.2	3.9	2.2	-4.4	.7	-1.1	1.2	-1.4	-2.0	-2.0	-.2
lifornia	-3.2	-2.5	-.5	-4.5	-1.3	-.9	-3.1	1.1	.9	1.3	-1.6	1.9	-1.0
lorado	-.9	-5.3	-1.1	.1	1.1	-1.5	2.0	2.4	1.8	2.3	-2.0	4.0	.2
necticut	-1.6	2.6	.0	2.9	3.0	-1.6	5.4	4.0	-.8	1.5	-.7	-6.2	.7
laware	-2.3	1.3	1.8	3.0	1.7	-2.9	4.3	3.2	-.9	1.0	-1.9	-5.3	.2
rida	-1.2	1.0	1.9	2.0	1.3	-1.5	-.4	.8	1.3	-.8	.1	.4	.4
rgia	-1.9	1.4	2.8	3.2	1.6	-4.3	-.1	.9	.4	-1.6	-1.2	-1.1	.0
aho	-3.4	-5.4	-7.0	-5.4	-3.0	-.1	-1.8	1.5	-.1	.5	-5.3	2.0	-2.3
linois	.6	1.5	.0	6.7	2.5	-3.5	4.1	2.9	1.7	.3	-3.6	-2.4	.9
diana	-.7	1.1	.6	6.5	1.8	-4.0	3.6	2.8	1.3	.2	-3.3	-2.9	.6
[illegible]	1.3	-1.8	-1.8	7.6	3.2	-2.4	4.9	4.6	2.3	.9	-6.4	-4.1	.7
sas	1.7	-3.8	-1.5	5.5	2.9	-3.2	3.5	1.9	2.0	1.1	-4.2	-1.4	.4
tucky	-1.7	.7	1.8	4.3	1.9	-5.7	2.3	2.2	2.4	-1.6	-2.3	-2.6	.1
isiana	-1.2	-1.0	3.4	2.4	2.2	-3.4	-1.0	-1.2	1.2	-1.8	-.8	-.1	-.1
ne	.4	3.5	-1.9	1.1	2.9	.9	3.1	2.8	-1.3	-.8	-.5	-6.6	.3
yland	-1.0	1.4	2.8	4.3	2.3	-3.0	4.5	3.5	.1	1.4	-1.7	-3.9	.8
sachusetts	-.7	2.9	.2	2.1	3.3	-.9	4.0	3.6	-.9	1.0	-1.4	-6.0	.6
higan	1.2	2.1	-.5	7.6	3.8	.6	5.3	5.5	.1	2.9	-2.7	-2.4	2.0
nesota	1.6	-2.5	-6.0	7.9	4.8	.6	4.2	4.8	.1	2.2	-7.2	-7.5	.3
sissippi	-2.0	.0	2.9	2.8	2.7	-4.1	-.3	-.5	2.0	-1.5	-1.3	-.3	.0
souri	2.2	.6	.3	6.6	2.5	-3.7	3.7	1.8	2.7	.1	-3.0	-1.3	1.0
tana	1.8	-3.0	-7.6	-2.1	-2.5	-1.6	-1.6	1.9	-1.3	1.9	-12.3	-5.6	-2.7
raska	.4	-4.9	-1.1	5.7	4.1	-3.4	4.6	4.8	2.3	1.7	-6.0	-4.4	.3
ada	-6.3	-5.2	-2.0	-4.2	-1.9	.0	-2.4	1.8	1.0	2.8	-1.1	3.1	-1.2
Hampshire	-.4	4.1	.4	2.7	4.1	.4	4.0	4.3	-1.0	.7	-.8	-6.4	1.1
Jersey	-1.5	1.7	1.8	3.3	2.8	-1.7	5.1	4.6	-.3	2.5	-1.1	-5.2	.8
Mexico	-1.3	-5.1	.7	-.8	-1.3	-1.5	-1.7	-.3	1.3	1.4	.5	3.2	-.4
York	-2.5	1.9	.6	4.9	3.2	.2	4.7	5.0	-1.2	2.3	-1.0	-5.3	1.1
th Carolina	-2.6	.2	3.3	3.8	1.6	-4.5	1.6	1.4	.8	-.4	-1.0	-4.0	.0
th Dakota	4.3	-3.0	-6.1	6.8	3.6	-1.0	1.8	4.2	-.5	3.3	-12.0	-8.5	-.6
o	-1.1	1.5	1.8	6.5	2.5	-3.4	3.7	3.9	1.9	.9	-2.2	-2.4	1.2
ahoma	2.1	-1.4	.7	4.7	2.9	-3.2	1.9	-.3	2.0	-.3	-2.1	-.8	.5
gon	-1.0	-3.1	-5.3	-6.4	-3.5	.4	-3.9	-.5	-.4	.0	-3.7	.1	-2.3
nsylvania	-2.2	.9	1.5	4.6	2.2	-3.0	4.3	3.8	-.4	1.3	-2.5	-4.3	.5
de Island	-1.7	2.2	.3	1.7	2.5	-.8	3.6	2.9	-1.0	1.0	-2.0	-7.2	.1
th Carolina	-1.9	.4	2.5	3.1	1.8	-4.3	.6	1.3	.4	-1.4	-1.0	-3.1	.0
th Dakota	3.7	-3.9	-2.3	6.6	5.1	-2.3	3.7	4.9	.6	2.4	-9.8	-8.2	.0
nessee	-1.4	.4	1.6	3.7	2.6	-5.3	1.5	1.8	2.6	-1.2	-1.9	-1.7	.2
[illegible]	.0	-1.1	1.4	3.7	2.4	-1.1	.0	-.3	1.8	.3	-.3	1.4	.7
h	-4.8	-9.2	-3.8	-3.0	-.8	-1.6	-.8	1.6	1.6	2.2	-2.4	6.1	-1.2
mont	-3.7	2.0	-.8	3.0	3.9	.3	3.2	3.8	-1.4	.9	-1.2	-7.2	.3
ginia	-2.0	.8	2.9	4.0	1.9	-4.1	3.3	2.5	.2	.3	-1.8	-4.2	.3
hington	1.2	-1.5	-6.5	-5.7	-4.6	-.2	-3.4	-1.4	-.2	-1.2	-7.3	-3.6	-2.9
t Virginia	-2.7	.8	1.6	4.3	1.7	-5.5	2.9	3.1	1.1	.1	-2.4	-4.2	.0
consin	.9	.2	-2.4	7.5	3.8	-.3	4.7	5.3	.7	2.1	-4.4	-4.7	1.1
ming	.6	-3.5	-5.2	-.5	1.7	-1.4	1.8	3.4	1.0	2.6	-5.7	1.7	-.2
ska	6.2	-7.4	-.3	-5.3	-1.6	-3.3	.2	-2.2	-1.1	-5.1	-11.3	-3.8	-2.9
aii	-.3	-1.3	-1.5	-.6	-1.3	-2.1	-2.2	-2.4	-2.2	-1.8	-.8	.0	1.4
rto Rico	-.8	-.6	-1.7	-1.2	-.1	-.3	-.4	.0	-.3	.1	-.2	-.4	-.5

DEPARTURES FROM NORMAL ANNUAL TEMPERATURE

Table 3

(For past years)

Section	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Alabama	2.0	0.7	1.0	1.1	0.5	1.8	1.2	-1.5	0.8	-0.3	0.5	1.0	1.2	1.4	-0.2	0.7	1.2	0.1	0.6	0.1	0.5	0.7
Arizona	-.4	2.4	-.5	.9	-.4	-.3	.1	1.1	-1.5	-.6	.9	-1.4	-.5	.3	.3	-.4	-.9	1.3	-.2	-.4	.0	1.6
Arkansas	1.8	1.4	.0	.6	-.3	2.2	1.3	-2.1	.5	-.4	.2	.3	-.6	1.2	-.6	-1.0	-.1	-1.2	-.9	.2	1.0	1.9
California	-1.4	1.5	-1.2	.6	-.8	-.7	.2	.7	-.4	-.6	.4	-1.2	-.5	-1.0	-.1	-1.6	-1.3	.6	-.2	-.6	-.1	.3
Colorado	1.6	4.3	1.4	1.7	.7	1.4	1.5	1.3	.6	-.2	1.3	-.3	-.1	1.1	.2	-.6	.2	.9	-.8	.2	1.6	3.4
Connecticut	1.0	-.2	-.3	.2	1.3	1.5	.3	-2.3	.4	.4	-.7	.2	.2	.8	-.3	-.2	2.8	.1	1.4	1.7	2.8	.7
Delaware	1.3	-.3	-.5	.1	.4	1.3	1.2	-2.3	.7	.4	.1	.1	.2	1.1	-.4	-.2	2.2	-.4	.4	.6	1.7	.8
Florida	1.2	.1	.0	.1	-.1	.3	.7	-1.7	.0	-.3	-.3	.4	1.0	1.5	.5	1.8	1.7	.7	.6	.5	1.1	.3
Georgia	1.7	.1	.4	.5	.0	1.1	1.0	-1.7	.5	-.4	-.1	.1	.6	1.0	-.8	.6	1.2	-.1	.3	.5	.5	.7
Idaho	-.5	4.3	-.6	.2	-.8	.9	1.4	2.3	1.0	-1.0	-.1	-.8	-.3	.0	.6	-1.2	-.8	-.2	-1.1	-.7	1.6	.7
Illinois	2.3	1.8	-.1	.5	-.8	2.7	1.9	-.8	2.0	.3	-.4	.9	-.7	2.3	-.2	.1	1.2	-1.5	-1.5	1.2	2.2	2.2
Indiana	2.1	1.2	-.1	.3	-.7	2.3	1.7	-1.1	1.7	.3	-.4	1.1	-.5	2.1	-.7	.2	1.4	-1.4	-1.2	1.1	1.9	1.6
Iowa	2.6	3.3	.4	.4	-.7	3.0	2.9	-.3	2.9	.7	-.3	1.1	-.5	2.5	.7	.4	.6	-2.6	-3.0	.5	1.8	2.0
Kansas	2.8	3.5	.9	1.3	-.4	2.9	2.8	-.4	1.2	.0	.4	.1	-.4	2.8	.2	-.4	-.4	-1.1	-2.2	.6	2.1	3.0
Kentucky	1.7	.9	.1	.7	-.4	1.9	1.2	-1.9	.9	-.1	-.1	.7	.0	1.5	-1.0	.1	1.2	-1.0	-.5	.9	1.2	1.0
Louisiana	2.2	.8	.8	.0	-.1	1.0	1.0	-1.8	.2	-.8	-.2	.4	.4	.8	-.6	.1	.7	.6	.6	-.1	.7	.5
Maine	.7	-.2	.2	.5	3.0	2.2	-.2	-.6	1.2	1.3	-.7	1.0	.7	1.1	1.3	.3	2.7	.8	1.6	1.6	2.9	.3
Maryland	.8	-.2	-.5	.2	.0	1.3	1.3	-1.8	.9	.7	.3	.4	.6	1.7	.2	.5	2.7	.6	1.0	1.4	2.6	1.4
Massachusetts	.6	-.4	-.4	.1	1.3	1.4	.1	-1.7	.8	.4	-.8	.3	.5	1.2	.7	.1	3.1	.4	1.3	1.6	2.6	.6
Michigan	1.2	.2	-.5	-.7	.1	1.8	.9	-1.0	1.8	.4	-1.4	1.0	-.4	.7	.2	.4	2.1	-1.4	-.7	1.5	2.6	1.0
Minnesota	.6	1.4	-.5	-2.0	-1.3	1.8	1.9	-.1	2.5	.9	-.9	1.5	-1.0	.7	-.1	.2	.5	-4.0	-2.6	1.4	2.0	1.2
Mississippi	2.1	.9	.5	.3	.1	1.6	.9	-2.3	.5	-.5	.3	.6	.4	.9	-.8	-.1	1.1	.1	.5	.1	.6	1.1
Missouri	2.1	2.2	-.2	1.1	-.7	3.2	2.2	-1.2	2.0	.3	-.1	.7	-.5	2.6	.2	.0	.5	-.6	-1.4	1.2	2.7	3.0
Montana	1.0	3.9	-.5	-.3	-1.1	1.2	2.3	1.7	1.8	-.1	-.4	.2	-.2	.8	.3	-.6	-1.0	-2.9	-3.7	-.3	2.2	.1
Nebraska	2.6	3.9	.7	.4	-.4	2.8	3.1	.6	1.7	.3	1.0	-.2	-.3	2.4	.3	.3	-.2	-1.5	-2.3	.8	2.4	2.9
Nevada	.6	4.6	1.0	2.4	.8	.9	1.9	2.7	.6	1.0	2.0	-1.0	.5	1.3	1.5	-.6	-.8	.7	-5.6	-.8	.7	1.2
New Hampshire	-.5	-1.4	-1.4	-.8	.7	1.0	-1.1	-1.9	.1	.6	-1.1	.0	.5	.9	.4	-.7	2.6	-.6	.9	1.7	3.2	.8
New Jersey	.9	-.4	-.4	.3	1.0	1.3	1.0	-1.9	1.0	.6	.0	.5	.6	1.9	.5	.3	3.1	.2	1.2	1.4	2.4	1.0
New Mexico	.3	2.4	.0	.0	-.2	-.1	.0	.2	-.7	-.1	1.0	-.9	.1	.9	.0	.4	-.5	1.8	-.5	.2	.6	2.1
New York	1.3	-.4	-.6	.2	1.1	1.6	.5	-1.8	1.2	.8	-.8	.4	.3	1.6	.4	.2	2.6	-.3	.2	1.0	2.7	.8
North Carolina	1.8	.3	.1	.2	.1	1.1	1.2	-1.5	.6	.1	.1	.0	.7	.5	-.6	.8	2.2	.5	.5	1.1	1.2	.5
North Dakota	1.5	3.8	-.2	-.8	-.5	2.3	2.3	1.4	2.6	1.3	.2	1.4	-.6	1.2	.5	.4	.2	-4.3	-3.7	1.4	2.8	1.5
Ohio	2.0	1.0	.1	.4	-.1	2.4	1.9	-1.2	1.8	.7	-.3	.9	-.2	1.9	-.2	.5	2.7	-.7	.0	1.5	2.2	1.4
Oklahoma	2.5	2.5	.3	1.3	-.3	2.3	2.2	-1.1	.5	-.3	.5	.4	-.6	2.0	-.1	-.9	-.9	-.9	-.6	.8	1.5	3.0
Oregon	-.8	3.1	-.4	.5	-.3	.5	1.1	1.8	1.4	.2	-.2	-.2	-.3	-1.0	.2	-1.7	-1.0	-.6	-.5	-.4	.6	-.6
Pennsylvania	1.5	.4	.0	.2	.5	1.6	1.5	-1.6	1.1	.3	-.7	-.2	-.5	.9	-.6	-.3	2.0	-.9	.1	.8	1.8	.5
Rhode Island	.7	-.2	.1	.4	1.8	1.4	.3	-1.6	.6	.5	-.4	.5	.2	1.0	.3	-.3	3.0	.5	2.0	2.0	2.3	.4
South Carolina	1.8	.2	.2	.2	-.2	1.0	1.2	-1.6	.2	.2	-.2	-.1	.9	1.0	-.7	.0	1.1	-.2	-.1	.3	.8	.7
South Dakota	2.5	4.1	.9	-.4	-.9	2.4	3.0	.6	2.4	.6	.4	-.1	-.6	1.8	.2	.2	-.1	-3.4	-3.5	.4	1.8	1.8
Tennessee	2.2	1.1	.8	.9	.2	2.0	1.4	-1.6	1.4	.2	.3	.8	.3	1.7	-.5	.1	1.1	-.6	.0	.7	1.2	1.1
Texas	2.1	1.8	.3	-.7	-.4	1.1	.8	-1.5	-.5	-.9	-.3	-.2	.1	.7	-.8	-.3	-1.3	-.2	1.0	.5	1.2	2.1
Utah	-.2	4.2	.7	1.1	-.4	.6	.9	2.2	-.2	-.7	1.5	-1.3	-.4	.7	.3	-.8	-1.1	.6	-.3	-.3	1.4	2.2
Vermont	.9	-.6	-1.9	-.1	1.5	1.4	-.5	-1.3	.6	1.0	-1.4	-.1	.5	.8	.5	.0	2.2	.1	.8	-1.2	3.0	.3
Virginia	1.7	.3	-.5	.1	-.2	1.1	1.3	-1.6	.9	.5	.3	.1	5	1.1	-.6	.1	1.7	-.2	.4	.9	1.9	.8
Washington	-1.6	2.3	-.6	.0	-.7	.3	.9	2.0	2.1	.6	-.3	.2	-.2	-.5	.4	-2.5	-1.4	-2.0	-1.0	-.1	1.1	-1.2
West Virginia	1.4	.5	.0	.3	-.1	1.5	1.4	-1.6	.4	.0	-.5	.0	.0	1.4	-.4	.1	2.2	-.3	.1	.8	1.3	.3
Wisconsin	.9	1.2	-.5	-1.3	-.7	1.8	1.7	-.8	-2.4	.5	-.9	1.7	-.6	1.9	.4	.8	1.8	-2.3	-2.3	1.5	2.3	1.3
Wyoming	1.3	3.9	.3	.5	-.5	1.1	1.6	1.7	1.1	-.2	1.6	-.5	-.2	2.1	.8	.4	.7	-.2	-1.3	.5	2.5	2.9

AVERAGE PRECIPITATION

Table 4

YEAR

Section	January	February	March	April	May	June	July	August	September	October	November	December
Alabama	4.36	5.45	3.37	7.26	5.58	2.99	7.25	3.05	1.05	2.39	3.24	2.03
Arizona	1.83	.47	.11	.16	.15	1.07	2.86	3.46	.07	.29	.51	.52
Arkansas	1.68	4.55	5.67	4.63	6.37	3.65	3.65	2.66	3.32	2.40	1.97	1.18
California	3.72	1.57	.67	2.29	.69	.08	.16	.22	.30	.34	2.40	10.30
Colorado	.55	.97	.59	.82	2.74	1.04	1.43	2.47	.83	.38	.98	.68
Connecticut	.78	3.72	4.37	4.24	1.51	2.89	2.47	15.06	3.59	12.41	5.34	.79
Delaware	.58	2.87	4.26	2.81	1.73	6.33	1.47	11.07	2.60	3.79	1.87	.66
Florida	2.64	2.02	1.58	2.42	2.87	6.29	7.00	5.49	5.98	3.28	1.36	1.40
Georgia	4.44	3.46	1.83	4.90	4.23	2.98	7.02	3.06	3.82	2.47	2.18	.93
Idaho	1.13	1.25	1.22	2.01	1.49	1.49	.97	.41	.95	1.63	2.41	3.85
Illinois	1.80	2.56	2.58	3.95	4.09	3.86	3.41	2.56	2.86	4.68	1.93	.47
Indiana	2.08	3.19	3.99	3.74	3.77	3.28	4.80	2.68	4.36	4.61	4.29	.57
Iowa	.93	1.30	.97	3.49	2.71	3.07	3.29	1.79	3.01	1.49	.23	.49
Kansas	.86	1.35	.56	1.97	4.84	3.71	1.65	1.62	3.81	1.46	.10	.23
Kentucky	1.75	7.10	7.22	3.66	4.39	4.29	4.14	2.28	3.21	2.83	2.69	1.51
Louisiana	5.22	6.79	1.95	6.41	5.73	3.75	9.01	6.56	2.93	1.94	3.41	3.44
Maine	1.52	5.29	4.28	1.98	2.98	2.73	1.98	4.71	1.69	3.20	3.59	1.09
Maryland	.55	2.93	4.45	2.96	2.25	5.45	2.18	12.42	2.15	4.17	1.79	.41
Massachusetts	.85	3.73	4.21	3.96	1.61	3.17	2.49	13.31	2.82	8.08	5.19	.97
Michigan	1.41	1.40	2.28	2.29	2.79	2.43	2.52	3.67	1.55	3.74	2.82	1.56
Minnesota	.54	1.30	.77	1.79	2.32	3.44	5.75	3.36	2.43	1.19	1.01	.98
Mississippi	4.31	6.04	4.30	8.09	4.59	3.07	7.06	3.50	1.38	1.61	3.51	2.98
Missouri	1.21	3.23	2.86	2.70	5.22	4.62	3.02	2.69	3.13	3.64	1.09	.32
Montana	.45	.83	.87	1.86	2.96	2.06	2.49	.21	.66	.84	1.33	1.45
Nebraska	.62	.90	.46	1.26	3.05	4.19	1.54	1.29	2.70	.39	.30	.57
Nevada	1.00	.50	.22	.44	1.08	.38	.61	.85	.50	.11	.58	2.31
New Hampshire	.92	4.06	3.66	2.45	2.91	4.36	1.85	6.89	1.73	5.25	3.57	1.10
New Jersey	.72	3.06	4.59	2.59	1.46	4.05	1.13	11.85	2.56	7.27	2.39	.40
New Mexico	.63	.32	.26	.45	1.50	.41	3.09	2.32	1.02	.76	.15	.30
New York	1.15	2.76	4.47	2.63	2.32	2.22	2.21	6.92	2.53	8.16	2.91	1.50
North Carolina	2.61	3.38	3.40	3.64	3.82	3.76	5.64	9.30	7.76	2.61	2.30	.92
North Dakota	.41	.52	.50	1.47	2.62	3.27	3.18	1.69	1.61	.52	.88	.35
Ohio	1.70	3.53	4.65	3.01	2.72	2.66	4.19	3.23	2.71	3.72	3.51	.51
Oklahoma	1.05	1.95	2.02	1.76	7.96	3.06	1.65	2.92	3.83	3.36	.15	.23
Oregon	2.25	1.86	3.21	3.59	1.05	.82	.93	.01	1.50	3.70	5.19	8.16
Pennsylvania	1.03	2.83	4.76	3.14	2.04	3.69	2.45	9.12	2.35	5.74	2.58	.53
Rhode Island	.78	4.20	4.31	3.16	1.56	3.40	2.74	10.21	3.86	7.73	5.27	.75
South Carolina	4.20	2.81	1.95	4.61	4.26	3.62	5.67	4.39	5.45	2.37	2.29	.83
South Dakota	.22	.89	.36	1.39	2.49	3.26	2.34	1.88	1.86	.30	.38	.85
Tennessee	2.00	6.75	8.39	5.85	4.95	3.44	4.11	2.72	2.84	2.50	3.68	2.51
Texas	1.55	1.89	.80	1.48	3.87	2.40	2.51	2.69	2.95	1.38	.62	.71
Utah	1.48	1.49	.38	.61	.71	.77	.87	1.72	.72	.39	1.26	1.39
Vermont	.99	3.47	3.80	2.71	2.62	3.49	2.17	7.89	2.15	5.12	2.94	1.09
Virginia	1.19	3.61	4.92	3.32	2.82	3.94	3.61	9.56	2.91	2.48	1.85	.95
Washington	2.44	3.25	3.43	3.53	1.59	1.27	1.96	.10	1.48	5.61	7.12	7.19
West Virginia	1.94	4.96	6.55	3.05	3.33	3.79	3.47	4.80	1.74	2.64	2.16	1.21
Wisconsin	.60	1.02	1.41	2.90	3.42	3.55	4.95	2.93	1.70	3.18	1.11	1.05
Wyoming	.54	.92	.92	1.01	1.99	2.17	.93	1.08	1.05	.59	1.09	1.47
Alaska	2.20	1.81	1.80	1.13	1.75	2.28	2.06	4.19	2.82	2.68	1.20	2.25
Hawaii	6.06	13.20	6.20	5.98	5.11	2.99	4.37	4.46	3.39	2.84	7.23	7.57
Puerto Rico	2.06	1.93	2.02	3.16	5.91	6.03	5.38	7.96	9.99	6.70	4.60	4.21

Table 5

PERCENT OF NORMAL PRECIPITATION

YEAR 1955

Section	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Alabama	87	104	56	160	143	71	132	67	32	96	95	41	90
Arizona	185	37	11	25	47	306	171	164	5	36	72	40	92
Arkansas	39	126	125	92	131	91	102	75	102	73	52	28	86
California	93	39	20	135	82	27	160	147	86	26	104	259	98
Colorado	59	96	43	47	157	72	71	130	60	31	118	72	80
Connecticut	21	108	106	113	40	82	63	350	93	344	137	21	125
Delaware	16	91	110	80	47	168	32	224	76	123	63	20	91
Florida	99	67	48	79	75	95	94	78	87	77	61	50	80
Georgia	109	75	37	128	123	68	120	59	99	94	82	22	83
Idaho	56	73	73	147	94	113	159	71	96	115	124	196	110
Illinois	77	133	81	111	99	96	106	76	79	175	74	22	94
Indiana	69	133	122	104	92	83	144	81	133	166	142	21	108
Iowa	92	119	57	134	69	68	91	48	75	65	13	45	73
Kansas	130	138	40	77	128	93	56	52	130	72	7	27	79
Kentucky	38	202	150	93	110	103	100	62	110	109	78	40	99
Louisiana	93	148	35	133	112	84	162	146	78	61	73	63	99
Maine	46	177	122	63	91	79	59	143	47	89	99	33	86
Maryland	17	102	123	85	61	137	52	272	64	139	66	13	99
Massachusetts	23	110	107	110	46	91	72	348	76	236	138	27	116
Michigan	78	85	112	95	84	73	92	125	47	141	112	81	94
Minnesota	72	173	64	87	74	84	173	102	86	65	86	127	99
Mississippi	82	121	73	164	105	75	140	87	45	65	93	57	95
Missouri	52	155	87	67	109	96	85	71	78	124	40	15	82
Montana	62	136	101	163	149	74	179	19	52	85	171	193	115
Nebraska	89	127	40	53	89	111	50	47	130	27	38	84	74
Nevada	94	50	24	56	138	73	156	170	119	17	91	246	103
New Hampshire	31	150	110	78	87	119	51	192	47	167	105	36	97
New Jersey	20	91	119	72	38	108	24	246	70	208	70	11	92
New Mexico	98	100	38	58	126	34	137	100	56	68	28	248	91
New York	41	105	141	87	64	62	58	189	73	248	94	51	102
North Carolina	71	87	82	105	97	82	94	167	187	82	82	25	100
North Dakota	85	111	64	104	115	93	129	82	105	50	144	73	96
Ohio	57	148	134	93	73	68	111	97	93	148	130	19	96
Oklahoma	67	121	89	50	165	76	59	100	122	114	7	13	82
Oregon	58	56	111	174	60	57	211	23	126	167	234	192	122
Pennsylvania	32	103	133	90	50	90	58	220	70	178	86	17	95
Rhode Island	20	120	105	83	45	116	94	259	115	223	138	20	111
South Carolina	122	70	49	142	122	79	97	78	131	84	98	23	90
South Dakota	40	159	32	67	87	91	97	89	120	25	66	167	87
Tennessee	39	149	155	135	120	82	92	70	90	91	101	55	99
Texas	97	121	45	59	113	86	100	114	102	56	34	35	80
Utah	126	118	28	49	65	110	91	154	69	32	135	126	92
Vermont	36	138	128	91	78	94	57	220	58	159	92	39	100
Virginia	35	120	134	101	74	96	79	211	90	85	72	31	98
Washington	[illegible]	92	114	163	84	79	302	14	90	202	152	144	124
West Virginia	53	160	166	87	83	84	76	117	59	95	77	37	92
Wisconsin	48	85	87	117	97	85	145	85	46	134	59	84	89
Wyoming	64	118	85	64	101	119	74	103	117	51	136	191	102
Alaska	122	122	119	101	117	141	81	124	90	90	56	116	104
Hawaii	79	252	77	82	98	87	97	85	78	53	115	97	98
Puerto Rico	58	67	66	72	82	98	85	110	119	82	67	97	87

PERCENT OF ANNUAL PRECIPITATION

Table 6

(For past years)

Section	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Alabama	80	119	90	103	92	114	109	91	111	101	86	100	89	112	106	124	114	125	106	98	100	89	111	65	90
Arizona	142	98	86	76	112	103	94	92	93	125	153	69	90	99	82	100	69	77	97	54	115	112	62	95	92
Arkansas	97	105	101	88	118	72	114	100	104	93	96	103	72	114	139	121	84	115	117	122	109	88	89	78	86
California	102	65	84	75	92	84	121	125	66	150	151	100	100	100	114	73	57	88	70	124	111	132	72	100	98
Colorado	85	86	92	66	96	97	88	117	65	102	136	113	86	100	102	102	110	93	102	74	99	80	86	71	80
Connecticut	90	107	99	116	79	117	120	133	94	104	81	115	85	98	112	84	112	103	85	97	114	111	119	108	125
Delaware	93	112	119	124	124	115	115	111	104	99	77	102	88	101	125	90	95	131	92	92	102	116	109	85	91
Florida	81	100	104	99	98	108	110	81	102	98	110	100	90	100	104	103	137	118	102	91	90	91	128	86	80
Georgia	75	116	83	97	89	118	105	84	98	94	85	106	94	108	108	101	119	127	96	89	91	91	117	63	83
Idaho	83	108	103	89	68	91	110	108	76	121	119	111	92	89	121	114	101	118	86	115	112	78	100	89	110
Illinois	103	99	95	90	114	82	100	110	97	78	108	112	95	92	125	109	101	100	112	117	119	92	76	96	94
Indiana	98	109	104	76	100	86	117	105	99	83	83	105	95	86	127	92	102	105	115	138	109	98	79	96	108
Iowa	111	102	79	85	104	82	87	114	79	97	116	103	98	117	109	109	111	89	89	93	135	95	82	110	73
Kansas	96	88	82	74	106	68	77	101	75	95	137	123	91	139	112	105	102	109	120	101	156	70	79	75	79
Kentucky	93	109	112	82	127	84	110	102	105	86	74	110	83	89	113	101	92	111	114	139	119	91	80	90	99
Louisiana	94	111	97	105	101	81	104	89	91	132	107	101	92	109	109	130	112	100	109	101	87	88	119	70	99
Maine	100	99	102	99	95	123	105	107	89	100	76	100	106	95	115	92	91	93	89	107	126	95	120	142	86
Maryland	92	112	117	107	112	105	124	96	103	104	78	115	81	101	120	89	92	132	99	102	102	122	104	82	99
Massachusetts	101	107	115	105	92	119	114	129	88	102	76	110	90	97	117	95	95	106	81	93	112	97	124	123	116
Michigan	98	109	99	84	94	89	102	103	99	107	106	115	105	94	116	90	108	92	105	114	122	97	97	115	94
Minnesota	88	85	81	80	101	72	102	112	86	100	115	114	107	117	108	111	100	89	106	103	123	89	122	98	99
Mississippi	98	127	94	100	97	83	104	92	101	114	87	91	78	114	111	123	109	123	114	112	104	77	106	75	95
Missouri	100	94	93	87	119	73	92	101	94	80	104	114	94	96	132	109	98	98	119	102	125	81	63	87	82
Montana	67	107	107	77	72	77	87	109	83	99	114	110	98	101	97	113	106	110	83	107	110	74	112	102	115
Nebraska	85	91	90	63	100	64	78	98	72	77	108	111	76	121	100	109	103	94	112	100	137	91	89	86	74
Nevada	89	92	74	79	96	114	99	131	94	123	149	82	109	95	126	108	64	72	89	95	95	107	62	74	103
New Hampshire	104	108	114	107	102	131	123	125	98	111	83	109	112	101	125	105	103	100	93	106	125	106	114	137	97
New Jersey	81	103	109	100	93	104	104	115	94	106	82	111	86	103	115	87	101	116	87	97	109	120	107	91	92
New Mexico	126	112	89	70	102	93	104	101	91	104	195	108	80	101	69	93	76	93	107	74	69	78	69	80	91
New York	97	107	96	89	97	102	111	106	87	103	81	112	100	95	125	94	110	103	87	104	108	98	97	109	102
North Carolina	[illegible]	106	79	108	97	121	106	97	99	91	78	104	88	108	110	99	103	114	109	92	83	100	93	86	100
North Dakota	88	100	79	56	105	52	99	90	83	102	136	110	107	125	87	97	106	102	95	106	97	72	117	109	96
Ohio	101	98	102	70	107	88	118	104	99	101	83	101	94	88	118	95	108	111	99	126	110	93	76	97	96
Oklahoma	96	103	93	83	112	69	86	101	81	103	143	121	88	111	127	108	96	97	118	104	106	71	94	67	82
Oregon	93	101	107	98	78	88	132	100	79	112	113	118	91	76	121	104	102	132	86	135	114	83	133	98	122
Pennsylvania	89	93	108	93	96	101	111	96	88	104	81	114	90	96	117	94	98	109	91	113	105	111	97	96	95
Rhode Island	94	122	106	92	89	120	103	112	90	94	76	106	72	95	97	88	112	109	82	93	106	[illegible]	136	125	111
South Carolina	76	112	75	93	89	119	108	85	97	90	93	99	92	101	116	94	116	124	102	88	82	98	100	70	90
South Dakota	65	108	91	65	81	49	89	83	74	80	126	121	88	114	91	144	98	104	90	94	116	73	114	90	87
Tennessee	87	120	103	95	100	95	113	100	100	86	74	102	84	109	116	109	89	116	115	127	116	84	91	91	99
Texas	94	110	84	86	121	99	86	87	79	113	140	107	82	116	108	122	86	80	114	83	76	83	86	66	80
Utah	75	100	79	71	81	127	110	113	86	118	155	94	105	112	136	125	124	96	111	78	110	92	82	85	92
Vermont	104	104	102	101	100	121	117	120	96	109	83	107	110	98	133	104	111	104	91	99	114	102	100	122	100
Virginia	91	107	94	109	111	108	127	101	99	106	74	116	86	107	113	93	96	125	108	100	91	110	89	93	98
Washington	122	128	137	111	84	94	125	85	93	104	98	96	79	74	112	108	105	128	87	118	109	67	123	109	124
West Virginia	99	102	113	87	119	98	116	99	101	104	84	113	93	104	117	85	85	115	105	118	107	97	82	106	92
Wisconsin	97	84	89	100	99	83	90	136	86	107	111	115	96	95	115	97	98	79	92	101	126	95	99	119	39
Wyoming	81	93	85	76	86	92	109	107	72	102	127	108	87	109	122	109	117	89	96	96	98	78	83	70	102

EXCESSIVE PRECIPITATION

(Excessive Short Duration Rainfall)

YEAR 1955

This table contains statistics of maximum amounts of rainfall during the calendar year 1955. Data presented in this table are generally from stations equipped with recording gages. Stations are at City Office locations unless otherwise shown.

Excessive precipitation data for the years 1896-1935 inclusive, generally present the accumulated amounts of precipitation for each 5, 10, or 20 minute intervals during storms in which the rate of fall equaled or exceeded .25 inch in any 5 minute period, or .30 in any 10 minute period, or .35 in any 15 minute period, etc., the tabulation beginning with the 5 minute period where the rate of .05 inch in 5 minutes began and continuing by 10 or 20 minute intervals up to 120 minutes. A detailed explanation of the method used may be found in the publications listed in the last paragraph of this explanation.

The present method, adopted with data for the calendar year 1936, gives the maximum fall of precipitation for the periods 5 to 180 minutes, the maximum amounts being taken for the periods in which the fall is greatest for the given time, and is tabulated to show maximum amounts for 5, 10, 15, 20, 30, 45, 60, 80, 100, 120, 150 and 180 minutes, even if the fall does not equal the excessive rate for some of the periods. (The 15 minute amount was not computed for 1936-43 and the 150 minute amount was not computed for 1944 through 1948).

The following Table A shows limits at which precipitation was considered excessive in this publication:

TABLE A

Duration (minutes)	Depth of precipitation (inches)	Duration (minutes)	Depth of precipitation (inches)
5	.25	60	.80
10	.30	80	1.00
15	.35	100	1.20
20	.40	120	1.40
30	.50	150	1.70
45	.65	180	2.00

This table is made up from the formula, A = t 20 where A is the accumulated depth in hundredt of inches and t is the time in minutes.

For the years 1936 through 1948 stations in Nor Carolina, South Carolina, Georgia, Florida, Al bama, Mississippi, Tennessee, Arkansas, Louisian Texas, Oklahoma, and San Juan, P. R. used t limits shown in the following Table B:

TABLE B

Duration (minutes)	Depth of precipitation (inches)	Duration (minutes)	Depth precip tation (inche
5	.40	60	1.50
10	.50	80	1.90
15	.60	100	2.30
20	.70	120	2.70
30	.90	150	3.30
45	1.20	180	3.90

This table is made up from the formula A = 2t 30. Its use, however, was discontinued at the e of 1948 and Table A is used by all sections f 1949 and the following years.

Publication of Data. A summary of maximum pr cipitation data for the years prior to 1896 published in the annual report of the Chief the Weather Bureau for 1895-1896. Excessive pr cipitation data for the period 1881-1896 a published in the annual report of the Chief the Weather Bureau 1896-1897. Data for the yea 1897 through 1934 have been published in the a propriate annual reports of the Chief of t Weather Bureau. For the years 1935 through 19 these data are published in the appropriate iss of the United States Meteorological Yearboo For 1950 and succeeding years excessive precip tation are presented in the annual issues of t Climatological Data, National Summary.

Table 8

EXCESSIVE SHORT DURATION RAINFALL

YEAR 1955

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
ALABAMA												
Birmingham Airport												
Mar. 21	0.17	0.30	0.33	0.38	0.42	0.55	0.83	0.96	1.04	1.11	1.15	1.18
Mar. 21	.17	.30	.40	.46	.46	.47	.49	.50	-	-		-
Apr. 6	.35	.45	.48	.48	.49	.49	.49	.49	.49	.49	.49	.53
Apr. 13	.21	.30	.40	.47	.54	.66	.70	.74	.83	.88	.92	1.01
May 22	.37	.57	.71	.80	.84	.85	.86	.87	.87	.87	.88	.89
June 25	.20	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
July 2	.18	.33	.40	.49	.66	.87	.90	.96	.96	.96	1.00	1.00
July 4	.12	.24	.36	.41	.52	.58	.59	.61	.63	.65	.66	.66
July 15	.33	.59	.62	.67	.67	.67	.67	.67	.67	.67	.70	.70
July 21	.29	.34	.35	.37	.38	.38	.38	.38	.38	.38	.38	.38
July 24	.22	.34	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
July 27	.25	.35	.38	.39	.39	.39	.39	.39	.39	.39	.39	.39
July 28	.40	.65	.85	.97	1.06	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Aug. 4	.25	.30	.38	.41	.44	.46	.48	.49	.59	.59	.60	.60
Oct. 7	.18	.33	.46	.49	.78	.79	.87	.89	.90	.91	.91	.99
Oct. 28	.51	.84	.88	.91	.93	.95	.96	1.01	1.04	1.09	1.16	1.28
Nov. 23	.43	.51	.57	.64	.68	.76	.86	.90	.98	1.07	1.22	1.29
Montgomery Airport												
Feb. 6	.19	.27	.31	.39	.57	.76	1.07	1.20	1.26	1.37	1.48	1.57
Mar. 21	.30	.40	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46
Apr. 13	.39	.69	.86	.90	.96	1.03	1.10	1.16	1.23	1.30	1.42	1.57
May 8	.25	.43	.45	.45	.56	.70	.70	.70	.70	.70	.70	.70
May 13	.42	.63	.66	.67	.76	.77	.77	.77	.77	.77	.77	.77
May 16	.49	.61	.76	.83	.99	1.01	1.01	1.01	1.01	1.01	1.01	1.01
May 23	.52	.88	1.09	1.17	1.20	1.22	1.26	1.31	1.39	1.48	1.60	1.61
May 24	.34	.47	.52	.55	.56	.57	.59	.61	.62	.63	.64	.64
June 6	.27	.47	.59	.60	.65	.67	.73	.75	.75	.93	1.01	1.05
June 24	.28	.56	.79	.89	1.15	1.41	1.48	1.48	1.48	1.48	1.48	1.48
July 4	.33	.46	.51	.61	.74	.78	.78	.78	.78	.78	.78	.78
July 5	.30	.44	.55	.58	.68	.77	.79	.81	.84	.86	.86	.86
July 31	.18	.32	.42	.46	.48	.49	.49	.49	.49	.49	.49	.49
Sept. 30	.19	.32	.46	.58	.63	.65	.65	.66	.67	.67	.67	.67
ARIZONA												
Phoenix Airport												
June 12	.30	.33	.33	.38	.40	.45	.55	.70	.71	.82	.90	.90
July 22	.25	.42	.52	.56	.65	.73	.86	.86	.86	.86	.86	1.07
July 24	.22	.32	.35	.36	.37	.37	.37	.37	.37	.38	.53	.54
July 25	.15	.30	.32	.32	.32	.33	.33	.37	.45	.54	.60	.69
Prescott Airport												
June 12*	--	---	- -	-	--	---	--	---	- -	-	-	.86
July 31	.35	.58	.75	.81	.94	.95	.95	.95	.95	.95	.96	.96
Tucson Airport												
July 22	.30	.60	.81	.95	1.33	1.69	1.72	1.80	1.86	1.89	1.93	1.97
July 31	.45	.88	1.07	1.22	1.37	1.39	1.40	1.41	1.41	1.42	1.42	1.43
Aug. 3	.69	1.21	1.63	1.89	2.09	2.20	2.22	2.23	2.24	2.25	2.27	2.28
Aug. 6	.33	.49	.56	.59	.64	.66	.67	.67	.67	.68	.69	.69
Aug. 6	.26	.44	.51	.56	.90	1.12	1.14	1.14	1.14	1.15	1.16	1.17
Aug. 10	----	---	----	.50	.59	.63	.63	.63	.63	.96	1.21	1.22
Aug. 17	.35	.55	.78	.90	1.14	1.25	1.26	1.27	1.27	1.27	1.27	1.27
Aug. 30	.46	.65	.77	.83	.85	.86	.86	1.06	1.07	1.09	1.10	1.10
Winslow Airport												
Aug. 4	.41	.77	.92	.94	.96	.96	.96	.96	.96	.96	.96	.96
Yuma Airport						None						
ARKANSAS												
Fort Smith Airport												
Mar. 20	.26	.41	.61	.64	.81	.88	.91	1.11	1.23	1.28	1.55	1.61
Mar. 26	.21	.34	.45	.53	.74	.91	1.15	1.36	1.37	1.37	1.37	1.37
May 26	.29	.56	.70	.71	.71	.71	.71	.72	.72	.76	.76	.76
Aug. 29	.16	.30	.36	.40	.44	.45	.45	.45	.52	.54	.55	.57
Aug. 30	.25	.43	.43	.43	.43	.43	.43	.43	.43	.54	.54	.54
Sept. 22	.37	.57	.76	.88	1.01	1.15	1.21	1.24	1.36	1.39	1.39	1.39
Sept. 30	.35	.68	.76	1.09	1.24	1.35	1.42	1.42	1.42	1.42	1.42	1.44
Little Rock Airport												
Feb. 19	.19	.32	.45	.53	.62	.73	.79	.86	.93	1.03	1.22	1.29
Mar. 20	.15	.29	.39	.49	.65	.73	.82	.87	.94	.99	1.03	1.12
May 20	.37	.48	.50	.52	.53	.53	.53	.74	.74	.74	.78	.95
May 20	.46	.85	1.20	1.50	1.90	2.58	3.00	3.45	3.90	4.60	5.55	6.82
June 5-6	.45	.58	.70	.98	1.28	1.29	1.39	1.42	1.42	1.42	1.42	1.42
July 2-3	.42	.60	.65	.66	.66	.66	.66	.68	.69	.70	.70	.72
Sept. 23	.31	.33	.35	.43	.52	.70	.75	.86	.92	1.00	1.05	1.16
Sept. 30	.28	.36	.38	.41	.44	.47	.50	.51	.52	.57	.89	.94
Texarkana Airport												
Mar. 20	.20	.37	.44	.46	.58	.70	.76	1.00	1.23	1.55	1.65	1.72
Apr. 3	.50	.78	.88	.89	.90	.91	.91	.94	.94	.94	.95	.95
Apr. 12	.15	.21	.24	.31	.50	.67	.87	1.05	1.20	1.28	1.49	1.61
May 8	.15	.30	.35	.38	.42	.46	.47	.49	.50	.51	.55	.60
May 26	.35	.51	.61	.67	.68	.72	.74	.77	.91	1.07	1.10	1.10
June 15	.50	.75	.85	.90	.90	.90	.90	.90	.90	.90	.90	.90
July 22	.32	.45	.57	.78	1.12	1.28	1.75	2.13	2.15	2.15	2.15	2.15
Aug. 2	.50	.67	.69	.69	.69	.69	.69	.69	.69	.69	.69	.69
Aug. 11	.25	.40	.50	.55	.65	.67	.67	.67	.67	.67	.67	.67
Sep. 11	.45	.70	.85	1.11	1.26	1.28	1.29	1.29	1.29	1.29	1.29	1.29
Sep. 23	.35	.65	.95	1.25	1.64	1.82	2.03	2.15	2.23	2.30	2.43	2.54
Sep. 30	.37	.56	.71	.76	.78	.78	.78	.78	.79	.80	.81	.81
CALIFORNIA												
Bakersfield Airport												
Feb. 17	.24	.38	.41	.43	.46	.47	.48	.48	.48	.48	.48	.49
Blue Canyon Airport												
Dec. 21	.09	.17	.26	.34	.51	.72	.95	1.19	1.47	1.66	1.96	2.20
Burbank						None						
Eureka						None						
Fresno Airport						None						
Los Angeles						None						
Red Bluff Airport												
Sept. 16	.17	.31	.42	.50	.69	.82	.82	.83	.83	.84	.85	.85
Sacramento						None						
CALIFORNIA (Cont'd.)												
San Diego Airport												
Jan. 10	0.19	0.31	0.49	0.54	0.68	0.72	0.78	0.83	0.96	1.06	1.08	1.09
San Francisco						None						
COLORADO												
Alamosa												
Aug. 5	.15	.30	.34	.36	.40	.41	.41	.42	.42	.42	.42	.42
Denver Airport												
July 27	.32	.53	.72	.72	.72	.72	.72	.72	.72	.72	.72	.77
Aug. 27	.15	.25	.33	.48	.58	.66	.70	.73	.78	.86	.96	1.08
Sept. 18	.25	.30	.31	.31	.31	.40	.40	.40	.40	.40	.40	.40
Sept. 19	.75	.93	1.10	1.22	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
Grand Junction AP						None						
Pueblo Airport												
June 13	.19	.32	.45	.54	.79	.80	.85	.86	.88	.89	.89	.90
Aug. 15	.42	.80	.97	1.07	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Aug. 29	.55	1.08	1.45	1.65	2.68	2.92	2.94	2.94	2.94	2.94	2.94	2.95
CONNECTICUT												
Bridgeport Airport												
July 16	.35	.55	.60	.60	.63	.65	.65	.67	.67	.67	.67	.67
July 24	.28	.29	.29	.30	.30	.30	.32	.32	.32	.32	.32	.32
Aug. 18	.16	.31	.36	.40	.52	.64	.75	.81	.87	.87	.88	.89
Aug. 23	.16	.32	.35	.48	.50	.50	.50	.50	.50	.50	.50	.50
Oct. 15	.40	.47	.52	.70	1.04	1.40	1.64	1.88	2.10	2.11	2.20	2.60
Hartford Airport												
June 21	.25	.34	.38	.42	.44	.45	.46	.46	.46	.50	.55	.66
July 18	.25	.43	.52	.60	.74	.75	.75	.75	.77	.77	.77	.77
Aug. 5	.20	.34	.47	.47	.47	.47	.47	.47	.47	.47	.76	.76
Aug. 7	.43	.85	1.15	1.17	1.22	1.22	1.26	1.43	1.47	1.49	1.49	1.50
Aug. 17	.27	.34	.35	.35	.35	.35	.36	.36	.36	.36	.43	.43
Aug. 18	.27	.47	.64	.88	1.01	1.20	1.66	1.97	2.10	2.12	2.17	2.20
Aug. 19	.20	.30	.45	.55	.78	1.15	1.45	1.85	2.09	2.32	2.59	2.74
New Haven Airport												
June 24	.27	.34	.37	.37	.37	.37	.37	.38	.38	.38	.38	.38
June 28	.20	.39	.55	.66	.85	.89	.89	.89	.89	.89	.89	.89
July 16	.32	.37	.42	.45	.49	.66	.67	.67	.67	.67	.67	.67
Aug. 7-8	.22	.38	.60	.76	.90	1.01	1.12	1.12	1.12	1.13	1.13	1.13
Aug. 18-19	.17	.29	.38	.44	.49	.65	.71	.78	.98	1.27	1.43	1.51
Aug. 23	.42	.76	1.01	1.15	1.27	1.31	1.40	1.46	1.46	1.46	1.46	1.46
Oct. 15	.23	.32	.37	.42	.62	.88	1.11	1.29	1.37	1.45	1.67	1.72
Oct. 30	.16	.27	.36	.44	.50	.59	.81	1.02	1.07	1.23	1.33	1.42
Oct. 30	.22	.36	.39	.40	.43	.44	.45	.45	.45	.45	.45	.45
DIST. OF COLUMBIA												
Washington												
June 11	.20	.29	.37	.53	.60	.61	.64	.64	.64	.64	.64	.64
July 8	.42	.78	.85	1.22	1.64	2.41	2.47	2.48	2.68	2.94	2.94	2.94
July 8	.21	.34	.45	.60	.81	.89	.90	.91	.92	.94	.99	1.02
July 17	.23	.43	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47
Aug. 14	.23	.42	.53	.77	1.03	1.24	1.26	1.26	1.27	1.27	1.27	1.27
Aug. 22	.38	.75	1.01	1.07	1.16	1.59	1.75	1.80	1.86	1.95	2.02	2.04
FLORIDA												
Apalachicola												
Feb. 6	.45	.79	.96	.98	1.07	1.49	1.78	1.86	1.91	1.93	1.94	1.94
May 15	.23	.41	.45	.47	.47	.48	.48	.48	.48	.48	.48	.48
June 16	.19	.36	.47	.50	.53	.55	.55	.63	.64	.65	.66	.69
July 9	.23	.41	.52	.55	.60	.64	.65	.68	.92	.95	.97	.97
July 10	.19	.34	.43	.47	.50	.53	.55	.55	.55	.55	.55	.55
July 11	.20	.31	.44	.56	.70	.73	.76	.80	.83	.86	.88	.89
July 29	.29	.49	.65	.83	.94	.95	.96	.96	.96	.96	.96	.96
Aug. 10	.24	.39	.58	.73	.96	1.02	1.04	1.08	1.09	1.10	1.10	1.10
Aug. 22	.30	.48	.56	.70	1.08	1.12	1.14	1.15	1.15	1.15	1.15	1.15
Aug. 22	.36	.58	.81	.96	1.17	1.84	2.02	2.53	2.55	2.55	2.55	2.55
Aug. 23	.42	.77	1.07	1.30	1.58	1.71	1.75	1.76	1.77	1.78	1.79	1.79
Aug. 26	.29	.47	.60	.75	.84	.86	.99	1.04	1.07	1.08	1.10	1.10
Sept. 2	.31	.47	.52	.52	.56	.68	.79	1.13	1.36	1.37	1.38	1.39
Sept. 26	.15	.24	.37	.45	.47	.49	.50	.50	.50	.50	.50	.50
Oct. 28	.27	.45	.49	.50	.59	.62	.74	.77	.82	.83	.90	.94
Daytona Beach AP												
Jan. 18	.28	.32	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33
Feb. 7-8	.18	.30	.35	.37	.40	.42	.43	.46	.53	.55	.60	.63
Feb. 18	.25	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33
Apr. 11	.40	.65	.86	.91	1.03	1.11	1.12	1.13	1.13	1.13	1.13	1.13
June 15	.35	.67	.78	.81	.82	.84	.86	.88	.88	.88	.88	.88
June 19	.31	.40	.47	.52	.62	.64	.64	.64	.64	.68	.68	.68
June 24	.26	.40	.52	.65	.90	1.22	1.37	1.49	1.55	1.57	1.58	1.58
June 25	.22	.34	.46	.53	.57	.66	.69	.79	.85	.96	.97	.97
June 26	.26	.42	.47	.56	.61	.69	.71	.73	.76	.80	.80	.80
June 29	.19	.32	.49	.60	.84	1.02	1.08	1.10	1.11	1.12	1.13	1.13
July 1	.46	.86	.97	1.03	1.28	1.40	1.67	2.14	2.24	2.31	2.36	2.36
July 8	.37	.65	.75	.85	.86	.87	.87	1.04	1.12	1.13	1.14	1.14
July 21	.31	.35	.36	.37	.37	.37	.37	.37	.37	.37	.37	.37
July 31	.26	.38	.50	.59	.68	.69	.70	.72	.73	.73	.73	.73
Aug. 13	.25	.30	.44	.44	.44	.48	.48	.48	.48	.48	.48	.48
Aug. 15	.17	.29	.37	.38	.52	.67	.71	.71	.71	.71	.71	.71
Sept. 7	.22	.29	.37	.42	.51	.52	.52	.52	.52	.52	.52	.52
Sept. 8	.15	.27	.35	.45	.62	.80	1.03	1.24	1.28	1.30	1.31	1.32
Sept. 11	.25	.47	.51	.52	.56	.56	.56	.56	.56	.56	.56	.56
Sept. 28	.15	.27	.38	.45	.58	.78	.79	.79	.79	.81	.81	.93
Sept. 28	.23	.33	.37	.40	.50	.65	.77	.78	.78	.78	.82	.88
Oct. 5	.25	.35	.36	.36	.36	.36	.36	.36	.36	.36	.37	.37
Oct. 10	.19	.29	.39	.42	.42	.42	.42	.42	.42	.42	.42	.42
Fort Myers Airport												
Jan. 24	.17	.30	.42	.48	.68	.85	.91	.94	1.05	1.12	1.16	1.36
Apr. 2	.24	.33	.35	.50	.58	.62	.63	.65	.70	.72	.72	.72
May 19	.25	.50	.70	.80	1.15	1.28	1.34	1.43	1.53	1.54	1.55	1.56
June 1	.25	.42	.53	.55	.74	.95	.97	.98	.98	.98	.98	.98
June 11	.34	.40	.45	.52	.63	.65	.85	1.11	1.15	1.17	1.18	1.44
June 16	.28	.34	.36	.38	.39	.40	.41	.41	.42	.44	.45	.45
June 28	.40	.46	.49	.52	.54	.55	.55	.55	.55	.55	.55	.55
June 30	.45	.75	1.01	1.13	1.18	1.24	1.25	1.25	1.26	1.27	1.32	1.35
July 1	.30	.50	.55	.60	.68	.85	1.16	1.28	1.32	1.34	1.36	1.38
July 11	.25	.34	.35	.35	.38	.39	.39	.39	.39	.39	.39	.39

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* Recorder inoperative but estimated 60 minute amount excessive.

Table 8–Continued

EXCESSIVE SHORT DURATION RAINFALL

YEAR 1955

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
FLORIDA (Cont'd.)												
Ft. Myers AP (Cont'd.)												
July 27	0.37	0.55	0.70	0.75	0.87	0.93	0.94	0.95	0.95	0.95	0.95	0.95
July 30	.25	.43	.51	.58	.78	.89	.93	.94	.96	.97	.97	.97
Aug. 2	.25	.40	.61	.63	.63	.63	.63	.63	.63	.63	.63	.63
Aug. 30	.27	.42	.53	.55	.63	.65	.65	.65	.65	.65	.65	.65
Aug. 31	.22	.40	.53	.59	.69	.74	.76	.77	.78	.79	.80	.81
Sept. 2	.25	.46	.49	.51	.52	.52	.52	.52	.52	.52	.52	.52
Sept. 6	.38	.65	.89	1.02	1.25	1.40	1.46	1.47	1.47	1.47	1.50	1.50
Sept. 7	.21	.33	.44	.48	.48	.48	.48	.48	.48	.48	.48	.61
Sept. 7	.19	.35	.45	.50	.71	.77	.84	.86	.88	.91	.94	.96
Sept. 7	.28	.43	.55	.70	.78	1.04	1.17	1.28	1.31	1.36	1.42	1.50
Sept. 8	.25	.45	.48	.50	.70	1.05	1.20	1.25	1.29	1.34	1.44	1.51
Sept. 24	.34	.38	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39
Oct. 2	.38	.40	.40	.45	.46	.46	.46	.46	.46	.46	.46	.46
Jacksonville												
Jan. 18	.22	.30	.33	.34	.35	.35	.35	.35	.35	.35	.35	.35
Apr. 14	.37	.44	.46	.48	.54	.58	.59	.64	.64	.64	.64	.64
May 23	.39	.50	.51	.52	.52	.52	.52	.52	.53	.53	.53	.53
June 10	.26	.30	.31	.33	.36	.36	.36	.36	.36	.36	.36	.36
June 15	.44	.62	.77	.84	.98	1.06	1.10	1.11	1.12	1.13	1.13	1.13
July 9	.49	.70	.79	.82	1.16	1.56	1.61	1.63	1.65	1.66	1.68	1.70
July 12	.22	.30	.37	.52	.66	.67	.68	.69	.69	.69	.69	.69
July 15	.24	.32	.37	.39	.41	.46	.48	.51	.53	.53	.53	.53
July 22	.24	.37	.42	.45	.48	.49	.50	.50	.50	.50	.50	.50
July 23	.70	1.32	1.75	2.09	2.25	2.67	2.92	2.96	2.98	3.00	3.01	3.12
July 26	.32	.42	.60	.77	.86	.90	.90	.90	.90	.90	.90	.90
July 28	.21	.40	.55	.70	.94	1.03	1.05	1.10	1.13	1.15	1.17	1.20
Aug. 25	.37	.61	.81	1.08	1.50	1.70	1.76	1.83	1.88	1.92	1.93	1.93
Aug. 26	.29	.44	.51	.59	.60	.60	.60	.60	.60	.60	.60	.60
Aug. 31	.34	.35	.36	.37	.44	.46	.47	.47	.47	.47	.47	.47
Sept. 1	.20	.32	.37	.42	.53	.70	.73	.78	.80	.86	.99	1.08
Sept. 26	.21	.32	.35	.37	.39	.45	.46	.46	.46	.46	.46	.46
Sept. 28	.26	.35	.50	.62	.84	.92	1.00	1.01	1.01	1.01	1.01	1.01
Oct. 3	.20	.28	.32	.36	.56	.69	.82	1.00	1.06	1.08	1.09	1.09
Oct. 3	.35	.60	.71	.76	.92	1.19	1.35	1.39	1.46	1.55	1.61	1.62
Oct. 29	.31	.47	.58	.71	.80	.83	----	----	----	1.54	1.58	1.74
Key West												
Jan. 24	.23	.32	.40	.43	.47	.49	.52	.53	.54	.58	.58	.59
May 19	.26	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
June 8	.34	.54	.62	.70	.74	.77	.78	.79	.79	.79	.79	.79
June 15-16	.43	.71	.90	1.04	1.34	2.21	2.52	2.58	2.58	2.58	2.58	2.59
June 16	.19	.33	.39	.46	.53	.54	.54	.54	.54	.54	.54	.56
June 18	.18	.31	.42	.47	.49	.50	.52	.52	.52	.52	.52	.52
July 20	.28	.40	.61	.61	.61	.61	.61	.61	.61	.61	.61	.61
Aug. 1	.53	.57	.71	.71	.71	.71	.73	.73	.73	.73	.73	.73
Aug. 16	.27	.47	.67	.82	.87	.92	.92	.94	.94	.94	.94	.94
Aug. 18	.22	.36	.54	.65	.85	.98	1.01	1.03	1.03	1.03	1.03	1.03
Aug. 25	.20	.32	.37	.40	.46	.52	.54	.54	.54	.54	.54	.54
Sept. 6	.29	.45	.55	.62	.75	.84	.90	1.01	1.01	1.01	1.01	1.01
Sept. 6	.22	.28	.36	.39	.45	.46	.47	.49	.50	.50	.50	.50
Oct. 18	.20	.27	.35	.42	.51	.55	.55	.55	.55	.55	.55	.55
Miami												
Apr. 16	.44	.78	.97	1.03	1.16	1.24	1.26	1.26	1.26	1.26	1.26	1.26
May 17	.40	.48	.48	.48	.48	.65	.78	.79	.79	.79	.79	.79
May 17	.22	.33	.40	.42	.43	.48	.48	.48	.48	.49	.49	.49
June 11	.33	.35	.43	.57	.63	.66	.80	1.02	1.06	1.33	1.66	1.71
June 12	.26	.42	.54	.70	.88	.97	1.09	1.11	1.16	1.19	1.26	1.32
June 13	.20	.25	.32	.35	.47	.60	.84	.90	.90	.90	.90	.90
June 17	.29	.35	.36	.38	.49	.49	.52	.59	.59	.59	.59	.59
June 22	.21	.35	.42	.47	.51	.52	.52	.52	.52	.52	.52	.52
June 26	.50	.72	.81	.89	.96	.96	.96	.96	.96	.96	.96	.96
June 29	.19	.32	.40	.44	.54	.58	.61	.62	.62	.62	.62	.62
Aug. 14	.38	.66	.79	.98	1.12	1.16	1.17	1.17	1.17	1.17	1.17	1.17
Aug. 19	.21	.42	.50	.55	.62	.64	.65	.66	.66	.66	.66	.66
Aug. 31	.34	.53	.68	.92	1.29	1.62	1.76	1.85	1.94	1.95	1.95	1.95
Sept. 7	.26	.46	.62	.75	.86	1.03	1.25	1.27	1.30	1.30	1.30	1.30
Sept. 7	.21	.36	.55	.64	.67	.72	.76	.77	.79	.81	.81	.85
Sept. 9	.17	.30	.38	.47	.61	.96	.99	1.02	1.04	1.05	1.07	1.09
Oct. 9	.30	.41	.46	.48	.65	.77	.82	.87	.87	.87	.87	.88
Oct. 12	.22	.42	.61	.82	1.03	1.22	1.23	1.24	1.62	1.96	2.06	2.16
Nov. 9	.22	.35	.42	.46	.49	.52	.53	.54	.55	.56	.57	.57
Miami Airport												
Apr. 16	.17	.27	.44	.61	.73	.80	.81	.82	.83	.83	.83	.83
May 17	.22	.40	.52	.52	.62	.85	1.00	1.00	1.00	1.00	1.00	1.00
May 19	.25	.35	.40	.43	.47	.49	.49	.49	.49	.49	.49	.49
May 31	.30	.50	.75	.80	.95	.99	1.00	1.00	1.00	1.00	1.00	1.02
June 11	.63	.93	1.03	1.18	1.23	1.24	1.24	1.38	1.43	1.70	2.32	2.36
June 11	.15	.30	.33	.40	.50	.55	.62	.67	.70	.70	.70	.75
June 18	.13	.25	.31	.50	.71	1.02	1.07	1.08	1.08	1.09	1.09	1.09
July 21	--	.31	.44	.48	.50	.50	.51	.51	.52	.52	.52	.61
July 23	.35	.44	.44	.44	.44	.45	.64	.64	.64	.65	.66	.66
July 28	.40	.70	.90	1.20	1.25	1.55	1.74	1.78	1.78	1.78	1.78	1.78
July 29	.20	.30	.35	.50	.63	.70	.75	.88	.93	.93	.94	.95
Aug. 6	.20	.30	.35	.40	.57	.59	.59	.59	.59	.59	.59	.59
Aug. 14	.40	.55	.60	.67	.67	.67	.71	.71	.71	.71	.71	.71
Aug. 24	----	----		.75	.75	.75	.75	.75	.75	.75	.75	.75
Aug. 31	.30	.50	.60	.70	.90	.93	.94	.94	.94	.94	.97	1.23
Sept. 8	.29	.44	.66	.79	.80	.95	.95	1.05	1.05	1.05	1.11	1.13
Sept. 9	.25	.45	.55	.60	.75	.85	.89	.91	.93	.95	.97	1.01
Oct. 11	.15	.25	.35	.40	.45	.55	.62	.64	.64	.65	1.05	1.07
Dec. 8	.28	.38	.48	.50	.50	.50	.50	.50	.50	.50	.50	.50
Orlando Airport												
May 17	.23	.33	.45	.50	.62	.62	.62	.62	.62	.62	.62	.62
May 21	.29	.36	.43	.48	.54	.57	.59	.64	.70	.71	.82	1.16
June 19	.51	.89	.95	.96	1.21	1.24	1.25	1.26	1.26	1.26	1.28	1.28
June 23	.40	.48	.50	.54	.57	.61	.62	.70	.88	.90	.93	.96
July 6	.35	.62	.82	.86	.90	1.13	1.22	1.22	1.22	1.22	1.22	1.22
July 7	.40	.70	.84	.89	.90	.92	.93	1.35	1.66	1.67	1.69	1.71
July 25	.17	.32	.37	.43	.52	.55	.55	.55	.55	.55	.55	.55
July 26	.24	.31	.44	.52	.55	.60	.60	.60	.60	.60	.60	.60
Aug. 12	.30	.52	.57	.61	.63	.65	.65	.65	.65	.65	.65	.65
Aug. 19	.33	.59	.88	1.03	1.18	1.36	1.38	1.38	1.38	1.38	1.38	1.38
Aug. 21	.27	.48	.61	.69	.94	1.00	1.01	1.02	1.02	1.03	1.05	1.05
Aug. 31	.23	.43	.56	.68	.91	.94	.99	.99	.99	.99	.99	.99
Sept. 2	.21	.34	.44	.47	.51	.52	.53	.57	.57	.57	.57	.57
Sept. 7	.40	.73	1.16	1.41	1.73	1.98	2.06	2.08	2.09	2.10	2.10	2.10
Sept. 8	.18	.27	.36	.40	.40	.40	.41	.41	.42	.46	.46	.46
Sept. 10	.51	.75	.82	.86	.93	.96	.96	1.02	1.64	1.74	1.75	1.75
Sept. 22	.15	.30	.37	.54	.62	.65	.65	.65	.65	.65	.65	.65
Oct. 2	.21	.28	.33	.40	.50	.53	.53	.53	.53	.53	.54	.54
Oct. 4	.22	.30	.33	.34	.36	.40	.40	.40	.40	.40	.40	.41
FLORIDA (Cont'd.)												
Orlando AP (Cont'd.)												
Oct. 5	0.39	0.64	0.84	1.01	1.16	1.17	1.17	1.17	1.20	1.20	1.20	1.20
Pensacola												
Jan. 18	.35	.44	.44	.44	.45	.58	.74	.91	1.03	1.13	1.44	1.45
Feb. 5	.45	.82	1.13	1.42	1.73	2.09	2.71	3.46	4.05	4.38	4.83	5.34
Feb. 11	.30	.44	.47	.47	.48	.48	.48	.54	.55	.55	.55	.55
Mar. 19	.26	.45	.62	.79	1.11	1.36	1.60	1.76	1.76	1.77	1.78	1.78
Apr. 2	.65	1.20	1.75	2.31	3.35	4.06	4.41	4.41	4.41	4.41	4.41	4.41
Apr. 10	.34	.58	.67	.72	.79	.83	.83	.83	.83	.83	.83	.83
May 13	.22	.32	.41	.46	.58	.62	.62	.62	.62	.62	.62	.62
May 29	.22	.36	.47	.53	.64	.74	1.06	1.34	1.45	1.50	1.56	1.60
June 6	.49	.68	.91	1.12	1.32	1.61	1.64	1.65	1.65	1.65	1.66	1.66
June 10	.48	.67	.80	.91	.93	1.21	1.34	1.35	1.35	1.35	1.35	1.35
June 16	.39	.62	.85	1.11	1.26	1.26	1.27	1.36	1.37	1.37	1.37	1.37
June 26	.23	.42	.55	.62	.72	.84	.87	.90	1.14	1.17	1.17	1.17
July 13	.27	.33	.38	.42	.50	.68	.81	.95	.99	1.00	1.04	1.21
Aug. 1	.38	.69	.99	1.25	1.72	2.12	2.26	2.73	2.87	3.08	3.23	3.35
Aug. 7	.56	.92	1.30	1.42	1.45	1.51	1.51	1.51	1.51	1.51	1.51	1.52
Aug. 12	.31	.55	.74	.86	1.12	1.40	1.47	1.48	1.48	1.48	1.48	1.48
Aug. 23	.45	.83	1.13	1.42	1.57	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Aug. 26	.24	.34	.34	.34	.39	.52	.57	.59	.62	.63	.73	.75
Aug. 27	.18	.33	.45	.49	.60	.79	.94	.96	.96	.96	.96	.96
Oct. 6	.22	.28	.32	.33	.56	.56	.56	.56	.56	.56	.56	.56
Oct. 7	.32	.50	.59	.64	.73	.81	.92	1.01	1.09	1.17	1.21	1.26
Nov. 19	.23	.38	.48	.52	.54	.55	.57	.63	.64	.65	.65	.65
West Palm Beach												
Feb. 17	.38	.68	.88	.91	.93	1.15	1.50	1.58	1.61	1.64	1.67	1.75
Mar. 24	.20	.35	.44	.54	.77	.86	.87	.90	.93	.93	.93	.93
Mar. 26	.25	.28	.28	.29	.31	.31	.31	.31	.31	.31	.31	.31
Mar. 28	.20	.30	.34	.38	.40	.40	.53	.64	.64	.64	.65	.65
Apr. 2	.20	.34	.45	.59	.71	.74	.75	.76	.76	.76	.76	.76
May 15	.32	.50	.61	.67	.77	.84	.88	.92	.95	.98	.98	.98
May 18	.30	.53	.68	.75	.80	.80	.80	.80	.80	.80	.80	.80
June 11	.24	.37	.53	.63	.68	.72	.84	.90	.91	.94	.95	.99
June 17	.21	.41	.47	.49	.49	.49	.49	.49	.49	.49	.49	.49
July 5	.25	.40	.45	.60	.71	.79	.80	.81	.81	.81	.81	.81
July 24	.23	.27	.37	.42	.46	.48	.48	.50	.50	.50	.50	.50
Aug. 18	.20	.32	.40	.44	.47	.49	.49	.49	.49	.49	.49	.49
Sept. 8	.25	.37	.42	.47	.53	.54	.72	.79	.81	.82	.82	.82
Sept. 18	.30	.57	.73	.95	1.35	1.68	1.74	1.79	1.82	1.82	1.82	1.82
Dec. 14	.46	.77	1.00	1.21	1.46	1.77	1.88	2.08	2.16	2.21	2.25	2.27
Dec. 28	.20	.40	.59	.69	.74	.78	.79	.80	.80	.81	.81	.81
GEORGIA												
Atlanta Airport												
Jan 10	.25	.39	.45	.48	.53	.63	.74	.82	.92	.96	1.04	1.05
Feb. 6	.15	.26	.33	.40	.47	.55	.70	.85	.95	1.05	1.35	1.43
Mar. 12	.30	.43	.50	.52	.54	.56	.57	.57	.57	.57	.57	.57
Apr. 6	.58	.64	.65	.68	.70	.70	.70	.70	.70	.70	.77	.84
Apr. 21	.20	.30	.32	.33	.36	.40	.42	.43	.43	.43	.43	.43
May 12	.30	.39	.42	.44	.46	.46	.46	.46	.46	.46	.46	.46
June 7	.37	.49	.49	.49	.49	.49	.63	.65	.65	.65	.65	.65
June 24	.20	.25	.35	.41	.46	.48	.49	.50	.50	.50	.50	.51
June 25	.31	.45	.50	.52	.53	.53	.53	.53	.53	.53	.53	.53
July 4	.20	.27	.32	.40	.43	.47	.48	.48	.48	.48	.48	.48
July 6	.28	.50	.73	.79	.84	.88	.90	.93	.95	.98	1.05	1.10
July 9	.20	.30	.34	.35	.38	.42	.43	.43	.43	.43	.43	.43
July 20	.17	.27	.35	.45	.71	.78	.78	.78	.78	.78	.78	.80
July 24	.40	.58	.60	.62	.62	.62	.62	.62	.62	.62	.62	.62
July 28	.27	.35	.36	.48	.60	.66	.66	.66	.66	.66	.66	.66
Augusta Airport												
Apr. 13	.22	.34	.45	.51	.54	.63	.68	.72	.76	.78	.79	.79
Apr. 14	.19	.36	.51	.58	.73	.87	.92	.98	1.04	1.15	1.23	1.29
Apr. 14	.29	.55	.62	.77	.92	1.07	1.08	1.08	1.08	1.08	1.08	1.08
May 14	.24	.31	.31	.31	.32	.32	.32	.32	.32	.32	.32	.32
May 22	.44	.79	.96	1.04	1.12	1.18	1.20	1.26	1.30	1.33	1.33	1.33
May 29	.25	.27	.29	.42	.44	.44	.44	.44	.44	.44	.44	.44
June 10	.42	.73	1.10	1.38	1.53	1.67	1.67	1.67	1.67	1.67	1.67	1.67
July 12	.33	.61	.74	1.06	1.28	1.46	1.51	1.55	1.60	1.66	1.73	1.75
July 20	.36	.67	.90	1.10	1.37	1.43	1.45	1.45	1.46	1.47	1.48	1.50
Aug. 14	.23	.38	.44	.57	.64	.69	.77	.77	.78	.82	.87	.89
Aug. 15	.27	.41	.43	.48	.52	.52	.52	.52	.52	.52	.52	.86
Sept. 5	.20	.38	.48	.50	.56	.56	.56	.56	.56	.56	.56	.56
Nov. 25	.15	.19	.24	.32	.40	.62	.82	1.04	1.30	1.46	1.71	1.86
Columbus Airport												
Feb. 6	.30	.40	.42	.46	.52	.57	.62	.76	.82	.89	1.00	1.10
Mar. 22	.26	.31	.33	.36	.52	.66	.71	.72	.72	.72	.72	.72
May 13	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47
May 16	.35	.55	.80	.90	1.08	1.13	1.15	1.15	1.15	1.15	1.15	1.15
May 20	.30	.47	.59	.64	.84	.95	1.06	1.16	1.30	1.35	1.60	1.70
May 21	.22	.28	.40	.41	.43	.48	.51	.56	.58	.58	.58	.58
May 24	.28	.30	.32	.35	.40	.50	.51	.56	.62	.62	.62	.62
July 7	.31	.33	.35	.45	.57	.58	.59	.59	.59	.59	.59	.59
July 10	.35	.51	.53	.64	.85	.89	.89	.89	.90	.94	.95	.95
July 14	.23	.35	.46	.50	.55	.55	.55	.55	.55	.55	.55	.55
July 19	.20	.35	.40	.54	.54	.55	.55	.55	.55	.55	.55	.55
July 19	.25	.35	.36	.36	.36	.36	.36	.42	.45	.76	.87	.87
July 24	.40	.75	1.05	1.10	1.16	1.32	1.36	1.36	1.36	1.36	1.36	1.36
July 25	.30	.48	.65	.75	1.10	1.70	2.14	2.26	2.26	2.26	2.26	2.26
July 25	.40	.80	1.20	1.35	1.60	1.62	1.65	1.65	1.65	1.65	1.68	1.68
Aug. 4	.25	.34	.34	.34	.34	.44	.44	.44	.44	.44	.44	.44
Aug. 6	.25	.28	.35	.40	.42	.43	.45	.45	.45	.45	.46	.48
Macon Airport												
Jan. 1	.12	.24	.34	.41	.46	.53	.63	.77	.89	1.00	1.08	1.21
Apr. 7	.33	.51	.56	.66	.71	.72	.76	.77	.91	.96	1.01	1.06
Apr. 14	.27	.36	.43	.53	.76	.89	1.11	1.30	1.55	1.71	1.94	2.53
May 15	.22	.38	.55	.61	.70	.78	.78	.78	.78	.81	.81	.81
June 19	.21	.35	.45	.59	.59	.59	.59	.59	.59	.59	.59	.59
July 5	.20	.35	.45	.50	.57	.71	.78	.83	.86	.88	.92	.95
July 8	.22	.29	.33	.54	.61	.61	.61	.61	.61	.61	.61	.61
Aug. 6	.25	.49	.65	.80	.81	.81	.81	.81	.81	.81	.81	.81
Aug. 14	.13	.20	.25	.35	.50	.74	.82	.86	.86	.86	.86	.86
Oct. 29	.25	.32	.34	.37	.41	.47	.60	.69	.70	.70	.72	.72
Rome Airport												
Feb. 2	.45	.59	.62	.73	.79	.82	.82	.83	.86	.87	.89	.90
Mar. 21	.33	.40	.45	.50	.70	.90	1.10	1.25	1.40	1.46	1.69	1.74
Apr. 2	.35	.43	.45	.48	.50	.55	.60	.60	.62	.64	.66	.67
May 12	.24	.35	.40	.55	.72	.74	.99	.99	.99	.99	.99	.99
May 15	.20	.34	.41	.55	.66	.76	.76	.83	1.02	1.06	1.22	1.29

EXCESSIVE SHORT DURATION RAINFALL

ble 8—Continued

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
GEORGIA (Cont'd.)												
me AP (Cont'd.)												
May 22	0.43	0.90	0.99	1.02	1.11	1.15	1.19	1.23	1.25	1.26	1.29	1.29
May 24	.25	.38	.48	.49	.53	.54	.54	.55	.60	.75	1.07	1.09
June 23	.26	.42	.62	.71	.86	1.12	1.13	1.14	1.14	1.14	1.15	1.15
June 25	.35	.50	.56	.56	.56	.56	.56	.56	.56	.56	.56	.56
July 15	.15	.30	.32	.33	.33	.33	.33	.33	.34	.34	.34	.34
July 16	.30	.60	.64	.66	.67	.68	.69	.69	.69	.91	.96	.96
July 23	.24	.39	.45	.46	.46	.46	.46	.46	.46	.46	.46	.46
Aug. 8	.20	.30	.45	.54	.56	.56	.56	.56	.56	.56	.56	.56
Sept. 30	.35	.48	.65	.70	.70	.70	.70	.70	.70	.70	.70	.70
Oct. 7	.30	.49	.52	.54	.69	.79	.84	.89	.96	1.11	1.18	1.27
Oct. 28	.40	.49	.52	.62	.73	.81	.88	.94	.96	.98	.98	1.03
Nov. 23	.39	.63	.75	.82	.85	1.05	1.13	1.28	1.33	1.45	1.84	1.87
vannah Airport												
Jan. 11	.28	.50	.67	.86	1.14	1.27	1.41	1.43	1.43	1.46	1.47	1.50
Apr. 11	.28	.40	.48	.55	.64	.71	.72	.73	.75	1.03	1.17	1.25
Apr. 13	.41	.58	.73	.76	1.05	1.22	1.25	1.26	1.26	1.26	1.26	1.26
May 24	.30	.39	.42	.46	.55	.56	.57	.57	.57	.57	.57	.57
June 7	.25	.41	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
June 10	.24	.31	.40	.52	.68	.93	1.13	1.22	1.22	1.22	1.22	1.22
June 11	.41	.45	.46	.46	.46	.63	.64	.64	.64	.64	.64	.64
June 27	.31	.53	.69	.81	1.23	1.54	1.57	1.59	1.64	1.67	1.71	1.73
July 6	.30	.49	.55	.56	.56	.56	.56	.56	.56	.56	.56	.56
July 7	.33	.64	.90	1.11	1.42	1.56	1.59	1.59	1.59	1.59	1.59	1.59
July 10	.10	.18	.26	.34	.51	.62	.63	.63	.63	.63	.63	.63
July 14	.30	.53	.65	.71	.75	.75	.75	.75	.75	.75	.75	.75
July 25	.16	.31	.41	.56	.73	.78	.82	.83	.83	.83	.83	.83
Aug. 25	.20	.39	.55	.68	.91	1.22	1.37	1.41	1.45	1.48	1.49	1.49
Sept. 5	.21	.34	.38	.42	.44	.51	.54	.58	.58	.58	.58	.58
Sept. 6	.21	.34	.34	.35	.56	.64	.64	.64	.64	.67	.69	.69
Sept. 29	.21	.36	.51	.57	.62	.62	.62	.62	.62	.62	.62	.62
IDAHO												
ise Airport						None						
catello Airport						None						
ILLINOIS												
iro												
Mar. 20	.21	.30	.36	.45	.46	.46	.47	.49	.53	.53	.53	.55
Mar. 20	.26	.33	.41	.51	.56	.67	.72	.77	.81	.83	.88	.91
Apr. 20	.37	.64	.81	.89	.93	.97	.98	1.02	1.09	1.15	1.18	1.21
May 21	.27	.42	.51	.61	.78	.84	.85	.89	.98	.98	.98	.98
May 28	.18	.32	.39	.41	.44	.44	.46	.47	.73	.78	.80	.84
June 23	.27	.36	.45	.50	.54	.58	.60	.69	.73	.75	.86	.95
June 24	.38	.59	.74	.79	.81	.91	.93	.94	1.46	1.73	1.77	1.77
July 6	.34	.53	.67	.77	.82	1.10	1.30	1.34	1.36	1.39	1.47	1.51
July 7	.18	.31	.39	.47	.67	.76	.80	.83	.85	.86	.87	.89
July 9	.53	.88	1.19	1.42	1.79	2.05	2.08	2.09	2.09	2.09	2.09	2.09
July 14	.29	.42	.53	.65	.78	.79	1.09	1.12	1.15	1.39	1.52	1.60
July 17	.33	.59	.80	.96	1.11	1.19	1.20	1.20	1.20	1.20	1.20	1.20
Oct. 28	.19	.32	.41	.46	.62	.75	.82	.95	1.08	1.14	1.15	1.15
Nov. 2	.22	.33	.39	.41	.41	.41	.46	.51	.58	.63	.69	.81
Nov. 16	.37	.41	.41	.42	.44	.45	.45	.45	.45	.45	.45	.45
hicago Airport												
May 22	.26	.38	.52	.60	.68	.79	.81	.81	.81	.81	.81	.81
May 24	.38	.60	.73	.79	.87	.94	.96	.98	1.04	1.08	1.09	1.12
June 5	.43	.57	.58	.58	.58	.59	.61	.63	.63	.63	.63	.63
July 9	.24	.34	.35	.37	.39	.49	.54	.62	.64	.65	.65	.65
July 16	.21	.32	.47	.59	.73	.80	.83	.83	.84	.86	.87	.87
Aug. 5	.40	.72	.96	1.04	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Aug. 6	.44	.60	.77	.86	.94	.97	1.01	1.03	1.07	1.10	1.13	1.17
Aug. 29	.34	.43	.47	.48	.48	.49	.49	.49	.49	.49	.53	.57
Oct. 6	.45	.51	.71	.82	.86	1.06	1.44	1.44	1.44	1.44	1.44	1.44
oline Airport												
Apr. 19	.44	.64	.80	.88	.89	.90	1.56	1.66	1.72	1.72	1.72	1.72
June 19	.26	.27	.30	.30	.30	.30	.30	.31	.31	.31	.32	.38
Aug. 5	.30	.36	.36	.39	.43	.44	.56	.57	.60	.60	.60	.60
Oct. 6	.22	.33	.34	.35	.35	.35	.39	.40	.40	.40	.41	.41
eoria Airport												
May 26	.25	.29	.31	.32	.35	.39	.40	.40	.40	.40	.40	.40
Aug. 29	.26	.38	.58	.70	.96	1.16	1.38	1.82	2.22	2.35	2.49	2.65
pringfield AP												
May 28	.17	.32	.40	.45	.63	.67	.72	.80	.83	1.07	1.09	1.17
July 14	.50	1.00	1.40	1.75	2.35	3.05	3.12	3.20	3.24	3.29	3.35	3.40
Aug. 2	.32	.49	.69	.73	1.03	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Aug. 29	.25	.32	.50	.55	.75	.80	.90	.93	.93	.93	.93	.93
Sept. 29	.48	.78	1.06	1.18	1.43	1.55	1.56	1.56	1.57	1.67	1.68	1.68
Oct. 5	.15	.25	.35	.40	.47	.55	.62	.75	.82	.89	.99	1.15
Oct. 5	.20	.37	.46	.49	.55	.60	.65	.74	.76	.78	.80	.84
Oct. 6	.33	.65	.70	.70	.70	.70	.70	.77	.79	.98	.98	1.10
INDIANA												
vansville Airport												
Mar. 4	.29	.32	.34	.35	.35	.35	.35	.35	.35	.45	.45	.45
Apr. 23	.20	.35	.41	.43	.56	.83	1.11	1.47	1.74	2.04	2.35	2.48
May 10	.29	.33	.35	.46	.52	.72	.74	.74	.74	.74	.74	.74
July 8	.28	.32	.40	.41	.53	.70	.71	.71	.71	.71	.71	.71
July 9	.20	.35	.38	.42	.54	.57	.60	.61	.85	.91	.95	.95
July 24	.16	.30	.34	.35	.35	.35	.35	.35	.35	.35	.35	.35
Aug. 11	.25	.45	.52	.57	.64	.69	.70	.70	.70	.70	.70	.71
Sept. 23	.22	.28	.29	.39	.45	.62	.80	.83	.85	.85	.85	.85
Nov. 2	.18	.33	.36	.52	.55	.59	.59	.65	.69	.69	.69	.74
Nov. 15	.35	.56	.72	1.07	1.10	1.10	1.10	1.10	1.14	1.14	1.14	1.15
ort Wayne Airport												
Mar. 3	.20	.39	.46	.48	.52	.56	.67	.72	.72	.75	.83	.90
Mar. 11	.35	.38	.52	.60	.62	.65	.79	.92	1.31	1.47	1.56	1.66
July 9	.20	.30	.35	.42	.43	.46	.51	.52	.53	.53	.53	.53
July 14	.30	.48	.59	.61	.75	.75	.75	.78	.99	1.01	1.13	1.25
July 15	.26	.45	.55	.60	.75	.94	1.05	1.12	1.15	1.20	1.20	1.23
July 26	.29	.55	.57	.57	.58	.58	.58	.58	.58	.58	.58	.58
Aug. 1	.60	1.10	1.22	1.28	1.42	1.48	1.50	1.50	1.51	1.52	1.52	1.52
Aug. 6	.37	.65	.79	.85	.91	1.15	1.17	1.21	1.31	1.46	1.50	1.60
Oct. 6	.36	.51	.66	.80	1.00	1.18	1.34	1.34	1.39	1.40	2.03	2.13
Nov. 13	.36	.45	.47	.48	.48	.49	.50	.50	.50	.61	.65	.65

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
INDIANA (Cont'd.)												
Indianapolis AP												
May 7	0.25	0.50	0.65	0.72	0.80	0.83	0.83	0.84	0.84	0.84	0.84	0.84
July 2	.20	.34	.46	.64	.68	.71	.71	.71	.71	.71	.71	.71
July 7	.25	.45	.53	.57	.57	.65	.80	.87	.87	.87	.87	.87
July 14	.17	.33	.34	.34	.34	.34	.34	.34	.34	.34	.34	.35
Sept 29	.32	.46	.66	.75	.85	.98	1.03	1.08	1.12	1.14	1.17	1.20
Sept. 29	.31	.54	.72	.80	.90	.97	1.00	1.05	1.07	1.11	1.14	1.18
Nov. 13	.26	.33	.42	.43	.43	.43	.43	.43	.43	.43	.43	.43
Nov. 15	.28	.47	.62	.80	.94	1.20	1.33	1.46	1.66	1.74	1.91	2.49
South Bend AP												
May 24	.30	.36	.37	.38	.40	.41	.41	.41	.41	.41	.41	.41
May 26	.30	.42	.48	.54	.59	.65	.67	.73	.80	.83	.84	.86
July 6	.30	.57	.75	1.05	1.25	1.32	1.32	1.33	1.34	1.34	1.34	1.34
July 23	.26	.38	.39	.40	.41	.41	.50	.50	.50	.50	.50	.50
Aug. 6	.42	.47	.58	.74	1.00	1.17	1.25	1.30	1.32	1.35	1.40	1.41
Aug. 6	.27	.47	.50	.53	.60	.75	.83	.85	.95	1.00	1.00	1.03
Aug. 20	.40	.70	.79	.81	.81	.81	.81	.81	.81	.81	.81	.81
Aug. 22	.24	.40	.46	.47	.49	.50	.53	.67	.71	.72	.75	.80
Oct. 5	.33	.60	.65	.70	.85	.89	1.01	1.05	1.11	1.14	1.18	1.22
IOWA												
Burlington Airport												
Apr. 19	.16	.27	.42	.50	.61	.61	.61	.61	.61	.61	.61	.61
Apr. 19	.26	.37	.39	.42	.43	.43	.43	.44	.44	.44	.44	.44
May 23	.23	.31	.35	.36	.36	.36	.36	.36	.36	.36	.36	.36
July 14	.36	.46	.48	.56	.57	.58	.58	.58	.58	.58	.58	.58
July 16	.15	.25	.35	.40	.49	.49	.50	.51	.55	.56	.56	.56
July 18	.26	.37	.39	.40	.41	.46	.47	.47	.47	.47	.47	.47
Aug. 29	.21	.32	.44	.46	.48	.53	.61	.65	.72	.79	.89	1.07
Sept 29	.31	.54	.74	.92	1.12	1.15	1.26	1.27	1.30	1.31	1.53	1.53
Davenport												
Apr. 19	.40	.60	.63	.68	.70	.75	1.18	1.21	1.33	1.34	1.34	1.35
June 19	.20	.30	.35	.38	.52	.60	.80	1.00	1.10	1.20	1.33	1.40
Oct. 28	.27	.34	.52	.57	.72	.94	1.09	1.18	1.20	1.21	1.23	1.30
Des Moines Airport												
July 4	.21	.28	.32	.36	.51	.62	.68	.69	.69	.69	.69	.70
July 10	.31	.59	.73	.86	.99	1.18	1.45	1.48	1.49	1.52	1.53	1.53
Sept. 21	.22	.40	.54	.72	.83	.92	.97	1.02	1.07	1.14	1.29	1.33
Sept. 29	.25	.31	.36	.42	.48	.52	.53	.73	.93	.95	1.04	1.06
Dubuque Airport												
May 23	.15	.30	.43	.47	.56	.57	.57	.57	.57	.57	.57	.57
July 5	.14	.27	.39	.47	.59	.63	.64	.65	.67	.69	.69	.69
July 23	.16	.32	.33	.34	.35	.35	.35	.35	.35	.35	.35	.35
July 31	.25	.50	.68	.91	1.31	1.48	1.51	1.52	1.52	1.52	1.55	1.55
Sioux City Airport												
Apr. 27	.20	.32	.38	.41	.55	.73	.77	.81	.85	.85	.85	.85
July 9-10	.45	.90	1.30	1.70	1.90	2.07	2.17	2.22	2.22	2.22	2.22	2.22
July 13	.33	.57	.68	.77	.80	.83	.84	.85	.86	.87	.87	.87
KANSAS												
Concordia												
June 3	.33	.43	.50	.60	.61	.61	.63	.63	.63	.64	.64	.65
June 17	.25	.43	.45	.46	.47	.48	.57	.59	.59	.59	.59	.59
July 19	.31	.43	.52	.54	.55	.66	.66	.68	.69	.69	.70	.70
Dodge City Airport												
May 2	.21	.32	.38	.39	.40	.54	.54	.54	.54	.54	.54	.54
May 17	.12	.23	.33	.38	.59	.70	.85	.91	.99	1.07	1.15	1.22
May 25	.25	.35	.38	.44	.58	.75	.76	.83	.88	.89	.90	.91
June 16	.44	.55	.64	.66	.66	.66	.66	.66	.66	.66	.66	.66
July 13	.25	.36	.42	.46	.50	.50	.50	.50	.50	.50	.60	.61
July 15	.26	.52	.60	.67	.77	.82	.85	.86	.87	.89	.91	.91
Goodland												
June 18	.30	.50	.65	.73	.89	.89	.90	.90	.90	.90	.90	.90
June 28	.25	.27	.30	.35	.42	.43	.43	.43	.43	.43	.43	.43
July 3	.22	.41	.43	.55	.62	.63	.63	.64	.65	.65	.65	.65
Aug. 6	.11	.21	.31	.41	.48	.50	.50	.50	.50	.50	.50	.50
Topeka												
Apr. 13	.23	.45	.46	.47	.48	.50	.52	.65	.68	.69	.71	.73
May 25-26	.40	.55	.80	1.00	1.18	1.28	1.55	1.65	1.70	1.72	1.80	1.84
June 4-5	.18	.31	.37	.42	.53	.54	.56	.61	.66	.72	.80	.86
June 25	.15	.27	.40	.52	.60	.85	.94	1.08	1.39	1.45	1.49	1.50
June 28	.31	.53	.58	.59	.60	.61	.61	.62	.65	.68	.68	.68
June 30 July 1	.16	.26	.39	.51	.68	.80	.84	.86	.88	.93	.94	.96
July 6	.20	.38	.38	.39	.50	.65	.88	1.15	1.24	1.30	1.40	1.53
Aug. 5-6	.25	.40	.47	.54	.60	.66	.71	.76	.93	.97	1.06	1.10
Sept. 22	.30	.48	.53	.55	.62	.65	.65	.65	.65	.65	.65	.65
Wichita Airport												
May 25	.22	.34	.36	.37	.37	.47	.50	.50	.56	.84	.88	.88
May 26	.24	.45	.54	.67	.99	1.09	1.11	1.14	1.15	1.18	1.25	1.26
June 17	.18	.26	.35	.42	.49	.60	.70	.81	1.01	1.10	1.14	1.16
Oct. 2	.58	.95	1.38	1.42	1.92	2.06	2.08	2.22	2.82	3.36	3.41	3.45
KENTUCKY												
Lexington Airport												
Mar. 4	.40	.57	.58	.58	.58	.58	.59	.62	.62	.74	.79	.80
Mar. 5	.22	.30	.35	.40	.42	.42	.42	.42	.42	.42	.42	.44
May 10	.28	.37	.50	.55	.58	.61	.62	.62	.62	.62	.62	.62
May 13	.40	.60	.70	.85	1.22	1.71	1.82	1.90	1.97	1.97	1.97	1.97
May 21	.35	.55	.62	.65	.72	.75	1.05	1.12	1.27	1.39	1.39	1.40
May 24	.20	.29	.37	.40	.42	.43	.44	.46	.46	.46	.46	.46
June 5	.40	.65	.72	.74	.76	.82	.87	.87	.87	.87	.87	.87
July 8	.14	.27	.35	.42	.46	.55	.60	.63	.75	.92	1.25	1.50
July 21	.23	.33	.37	.43	.48	.53	.56	.56	.57	.58	.58	.58
July 26	.20	.32	.35	.35	.35	.35	.35	.35	.35	.35	.39	.40
July 28	.25	.45	.68	.80	.93	.93	.93	.93	.93	.93	.93	.93
Aug. 2	.18	.34	.44	.54	.63	.65	.65	.65	.65	.65	.65	.65
Aug. 7	.35	.58	.75	.85	.90	.92	.93	1.55	1.58	1.59	1.59	1.59
Aug. 22	.45	.70	.70	.70	.70	.70	.70	.70	.70	.70	.88	.88
Sept 29	.14	.26	.39	.43	.45	.47	.50	.52	.54	.57	.64	.74
Oct. 7	.20	.36	.43	.48	.57	.63	.67	.68	.68	.68	.68	.68
Louisville AP												
Mar. 15	.25	.30	.36	.40	.47	.57	.61	.72	.81	.92	1.00	1.07
Mar. 20	.15	.26	.30	.40	.50	.69	.76	.85	.89	.92	1.00	1.00

EXCESSIVE SHORT DURATION RAINFALL

Table 8—Continued

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
KENTUCKY (Cont'd.)												
Louisville AP (Cont'd.)												
Apr. 5	0.30	0.40	0.52	0.52	0.52	0.53	0.53	0.53	0.53	0.53	0.53	0.53
May 24	.36	.59	.85	.93	1.28	1.52	1.61	1.61	1.61	1.61	1.61	1.61
May 28	.35	.44	.64	.75	.92	1.40	1.45	1.70	1.74	1.80	1.88	1.90
June 6	.25	.39	.40	.40	.40	.47	.50	.51	.51	.51	.51	.51
July 24	.46	.49	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Sept. 22	.25	.30	.35	.45	.50	.54	.55	.55	.55	.55	.70	.83
Sept. 29	.26	.40	.61	.78	1.10	1.38	1.43	1.64	1.78	1.83	1.90	1.94
Oct. 6	.14	.19	.35	.39	.49	.71	.91	1.14	1.16	1.20	1.30	1.30
Oct. 7	.15	.25	.28	.35	.60	.72	.86	.91	1.01	1.20	1.35	1.41
Nov. 16	.48	.53	.55	.57	.58	.63	.65	.65	.65	.65	.65	.65
LOUISIANA												
Lake Charles												
Feb. 4	.22	.40	.45	.47	.50	.76	.78	.80	1.09	1.17	1.20	1.36
Feb. 5	.19	.30	.34	.50	.63	.72	.75	.78	.85	.86	.86	.88
Apr. 1	.15	.30	.45	.53	.59	.73	.78	.87	.94	.95	1.02	1.08
Apr. 9	.12	.20	.30	.42	.52	.62	.72	.86	.98	1.07	1.14	1.20
Apr. 10	.20	.35	.40	.45	.55	.57	.57	.57	.57	.57	.62	.65
May 20	.30	.60	.77	.88	1.00	1.20	1.38	1.54	1.64	1.68	1.68	1.69
June 9	.35	.53	.62	.70	.87	.88	.89	.96	1.53	1.64	1.80	1.90
June 10	.15	.29	.31	.32	.49	.65	.80	.87	.94	1.01	1.09	1.12
June 15	.18	.30	.40	.58	.64	.67	.71	.72	.72	.72	.72	.72
July 3	.35	.50	.50	.53	.53	.53	.53	.53	.53	.53	.55	.59
July 12	.34	.39	.43	.44	.45	.46	.47	.47	.47	.47	.47	.49
July 14	.25	.44	.68	.85	1.07	1.09	1.09	1.10	1.10	1.10	1.10	1.10
July 18	.20	.39	.39	.40	.40	.40	.40	.40	.40	.40	.40	.41
July 19	.32	.40	.44	.47	.47	.54	.57	.57	.57	.57	.57	.57
July 24	.25	.28	.29	.29	.30	.30	.30	.37	.37	.37	.37	.37
Aug. 2	.25	.50	.52	.53	.63	.80	.80	.95	1.17	1.17	1.31	1.32
Aug. 3	.20	.28	.40	.48	.65	.78	.81	.81	.81	.82	.82	.82
Aug. 3	.25	.50	.60	.64	.74	1.08	1.11	1.33	1.35	1.40	1.50	1.56
Oct. 7	.32	.50	.69	.91	1.12	1.20	1.63	1.77	1.84	1.93	1.95	2.15
Nov. 6	.21	.30	.38	.55	.72	.95	.98	1.35	1.50	1.58	1.59	1.62
Dec. 4	.21	.31	.37	.41	.45	.48	.62	.67	.68	.70	.70	.75
Dec. 18	.21	.30	.45	.53	.66	.78	.84	.89	.90	.92	.93	.93
New Orleans												
Jan. 15-16	.17	.25	.34	.39	.56	.66	.79	.91	1.03	1.15	1.36	1.45
Jan. 16	.21	.30	.43	.57	.74	.95	1.18	1.35	1.59	1.91	2.31	2.56
Feb. 5	1.00	1.36	1.56	1.62	1.72	2.10	2.37	2.67	3.13	3.51	3.68	3.71
Feb. 6	.26	.34	.39	.39	.42	.46	.47	.61	.87	.94	1.06	1.13
Apr. 9	.40	.63	.70	.78	.87	.88	.89	.89	.89	.90	.92	.92
Apr. 10	.18	.31	.35	.36	.37	.42	.51	.59	.61	.63	.72	.74
Apr. 13	.38	.72	.94	1.05	1.14	1.24	1.35	1.59	1.59	1.59	1.63	1.63
May 19	.33	.56	.68	.69	.72	.74	.76	.83	.86	.88	1.01	1.02
May 20	.60	1.04	1.44	1.75	2.09	2.46	2.71	2.93	3.05	3.17	3.28	3.42
July 9	.44	.66	.96	1.10	1.30	1.45	1.55	1.64	1.66	1.66	1.66	1.66
July 12	.25	.47	.60	.65	.71	.73	.73	.77	.83	.84	.84	.84
July 13	.29	.43	.44	.44	.44	.44	.45	.46	.46	.46	.46	.46
July 14	.30	.36	.48	.54	.54	.55	.55	.55	.55	.55	.55	.55
July 16	.23	.35	.42	.45	.46	.46	.46	.46	.72	.72	.89	1.07
July 27	.49	.85	1.18	1.39	1.56	1.77	2.21	2.34	2.61	2.84	3.05	3.10
July 30	.15	.28	.36	.50	.60	.93	1.02	1.03	1.03	1.03	1.03	1.03
Aug. 1	.51	.72	.77	.85	.96	1.33	1.49	1.54	1.63	1.85	2.06	2.18
Aug. 6	.48	.83	1.24	1.55	1.95	2.01	2.04	2.05	2.05	2.05	2.05	2.16
Aug. 8	.29	.41	.53	.60	.67	.69	.69	.72	.75	.76	1.22	1.26
Aug. 9	.30	.40	.54	.61	.73	.82	.83	.83	.85	.92	.92	.93
Aug. 12	.25	.44	.55	.57	.77	.91	.93	.93	.93	.93	.97	.98
Aug. 26	.22	.35	.42	.45	.50	.56	.61	.69	.71	.73	1.01	1.09
Sept. 2	.51	.88	1.10	1.31	1.80	1.93	1.95	1.96	1.96	1.96	1.96	1.96
Sept. 4	.60	.91	1.05	1.12	1.32	1.81	2.25	2.88	3.21	3.30	3.42	3.56
Sept. 22	.46	.83	1.08	1.31	1.59	1.79	1.89	1.93	1.93	1.93	1.93	1.93
Oct. 4	.27	.47	.59	.62	.65	.66	.66	.66	.66	.66	.66	.66
Nov. 23	.29	.38	.41	.45	.50	.51	.51	.54	.55	.55	.55	.55
Dec. 2	.33	.42	.48	.51	.57	.66	.75	.88	.96	1.06	1.17	1.18
MAINE												
Caribou												
May 24	.26	.44	.48	.58	.68	.70	.72	.98	1.03	1.03	1.03	1.03
Aug. 15	.20	.33	.40	.56	.74	.92	1.12	1.13	1.13	1.14	1.14	1.14
Sept. 20	.32	.42	.58	.62	.70	.84	.87	.90	.90	.93	.99	1.04
Portland Airport												
July 2	.16	.27	.37	.40	.43	.47	.49	.53	.62	.62	.65	.65
July 16	.32	.46	.46	.46	.46	.48	.54	.54	.54	.54	.54	.54
Aug. 5	.22	.30	.34	.36	.37	.42	.45	.49	.51	.52	.52	.52
Aug. 7	.40	.62	.67	.67	.67	.67	.68	.68	.68	.68	.68	.68
MARYLAND												
Baltimore												
June 18	.20	.25	.45	.55	.70	.74	.76	.84	1.16	1.20	1.31	1.48
June 23	.35	.50	.65	.80	.95	.95	.95	.95	.95	.95	1.57	1.77
Aug. 6	.30	.60	.70	.80	1.02	1.30	1.50	1.50	1.50	1.50	1.50	1.50
Aug. 13	.15	.20	.25	.35	.50	.65	.70	.78	.85	.85	.98	1.13
Aug. 13	.16	.32	.35	.50	.65	.90	1.10	1.37	1.50	1.65	1.95	2.15
Aug. 17	.38	.48	.50	.50	.52	.53	.53	.54	.54	.55	.55	.55
Aug. 17	.25	.42	.43	.43	.45	.48	.50	.58	.75	.88	.92	.92
Aug. 18	.25	.34	.42	.47	.54	.57	.62	.65	.65	.65	1.17	1.25
Aug. 22	.18	.26	.39	.50	.60	.64	.66	.71	.74	.80	.85	.98
Oct. 13	.23	.35	.45	.53	.80	1.10	1.30	1.48	1.53	1.60	1.67	1.70
Oct. 14	.25	.46	.61	.71	.95	1.31	1.35	1.40	1.45	1.70	1.76	1.80
Baltimore Airport												
June 11	.18	.31	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
June 23	.38	.62	.72	.72	.72	.72	.72	.91	.93	1.00	1.25	1.43
Aug. 12	.15	.27	.36	.39	.44	.58	.66	.88	1.00	1.17	1.38	1.56
Aug. 13	.15	.25	.36	.48	.73	1.01	1.22	1.48	1.66	1.80	1.97	2.22
Aug. 14	.28	.54	.67	.85	1.12	1.31	1.32	1.32	1.32	1.33	1.35	1.41
Aug. 22	.24	.36	.58	.71	.88	1.21	1.45	1.60	1.65	1.70	1.78	1.88
Oct. 13	.12	.24	.31	.38	.55	.70	.81	.87	.89	.93	.96	1.01
Oct. 14	.15	.27	.36	.46	.60	.77	.80	.94	1.02	1.05	1.11	1.19
Frederick Airport												
Mar. 4	.17	.25	.35	.38	.43	.48	.49	.50	.50	.50	.50	.54
May 29	.25	.40	.47	.50	.63	.74	.78	.79	.82	.82	.87	.92
June 12	.14	.23	.30	.37	.54	.67	.68	.69	.69	.69	.69	.69
June 12	.30	.32	.33	.37	.38	.38	.38	.38	.38	.38	.38	.38
July 8	.30	.52	.60	.70	.88	1.22	1.38	1.53	1.68	1.73	1.75	1.75
July 9	.27	.42	.50	.62	.67	.70	.70	.72	.72	.72	.72	.72
July 10	.30	.40	.60	.73	.75	.75	.76	.77	.77	.77	.77	.77
Aug. 30	.55	.70	.94	1.15	1.37	1.46	1.70	1.83	1.88	1.88	1.88	1.90

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MASSACHUSETTS												
Boston Airport												
June 12	0.11	0.21	0.31	0.41	0.57	0.69	0.88	1.06	1.24	1.39	1.54	1.55
July 2	.27	.52	.70	.85	.98	1.03	1.04	1.06	1.09	1.11	1.11	1.11
July 10	.55	.95	1.25	1.53	1.63	1.93	2.10	2.17	2.32	2.35	2.38	2.39
Aug. 17	.25	.35	.40	.45	.47	.48	.48	.48	.48	.48	.49	.50
Aug. 18	.20	.31	.45	.56	.81	1.15	1.44	1.68	1.87	2.03	2.07	2.08
Aug. 18	.13	.18	.25	.35	.50	.70	.95	1.20	1.40	1.50	1.70	1.82
Aug. 19	.25	.40	.55	.65	.90	1.20	1.60	2.05	2.45	2.85	3.39	4.05
Sept. 20	.23	.40	.43	.48	.54	.55	.56	.57	.58	.59	.59	.59
Nantucket Airport												
Aug. 12	.18	.29	.45	.49	.60	.66	.70	.72	.85	.98	1.01	1.05
Aug. 19	.23	.30	.33	.38	.55	.72	.87	.92	.96	.97	.99	1.02
Oct. 16	.09	.18	.25	.33	.49	.68	.87	1.10	1.26	1.41	1.53	1.61
Pittsfield AP												
Apr. 22	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25
May 29	.27	.43	.57	.60	.66	.71	.96	1.16	1.22	1.43	1.49	1.72
June 21	.42	.82	.94	1.12	1.69	1.87	2.00	2.28	2.31	2.33	2.38	2.38
July 2	.22	.35	.48	.65	.76	.79	.82	.85	.86	.86	.87	.90
July 5	.28	.52	.62	.64	.66	.68	.68	.70	.72	.73	.73	.73
Aug. 5	.25	.47	.54	.54	.55	.57	.57	.58	.58	.58	.58	.71
Aug. 13	.15	.25	.35	.45	.55	.63	.67	.75	.83	.86	.90	.96
MICHIGAN												
Alpena												
May 24	.22	.33	.38	.38	.39	.39	.40	.43	.47	.49	.50	.51
Aug. 6	.29	.41	.45	.48	.52	.79	.96	1.07	1.14	1.16	1.16	1.16
Aug. 20	.24	.37	.38	.39	.56	.59	.59	.59	.59	.59	.59	.59
Detroit Airport												
Aug. 1	.32	.50	.70	.85	.92	.93	.93	.93	.93	.93	.93	.93
Aug. 22	.21	.37	.42	.42	.43	.43	.43	.43	.43	.43	.43	.45
Sept. 10	.20	.33	.40	.45	.50	.55	.55	.55	.59	.60	.64	.70
Oct. 6	.32	.52	.52	.52	.53	.53	.53	.53	.53	.53	.53	.53
Detroit (Willow Run) Airport												
May 24	.23	.39	.55	.56	.60	.65	.67	.71	.73	.73	.73	.73
July 1	.30	.33	.35	.38	.40	.43	.43	.43	.43	.43	.43	.43
July 4	.23	.44	.64	.77	.81	.82	.82	.82	.82	.82	.82	.82
East Lansing												
May 28	.14	.26	.37	.46	.49	.56	.58	.62	.62	.63	.63	.63
July 9	.15	.21	.36	.40	.41	.41	.41	.41	.41	.41	.41	.41
July 15	.16	.24	.40	.55	.70	.85	1.00	1.11	1.35	1.51	1.68	1.71
July 27	.25	.43	.45	.45	.46	.48	.48	.48	.48	.48	.48	.48
Aug. 3	.25	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
Aug. 6	.29	.44	.53	.58	.64	.73	.78	.83	.88	.92	.92	.92
Escanaba												
Aug. 4	.22	.31	.52	.60	.62	.62	.62	.63	.65	.67	.69	.69
Aug. 29	.53	.67	.67	.67	.67	.72	.80	.85	.85	.85	.85	.85
Grand Rapids												
July 8	.25	.35	.35	.36	.36	.36	.38	.40	.41	.43	.43	.43
Aug. 29	.37	.60	.64	.65	.75	.95	1.12	1.25	1.28	1.28	1.39	1.39
Aug. 30	.12	.22	.27	.45	.58	.85	1.10	1.21	1.28	1.41	1.53	1.56
Marquette												
June 19	.29	.55	.77	.80	.80	.80	.80	.80	.80	.80	.80	.80
June 19	.53	.57	.58	.59	.59	.60	.60	.61	.64	.65	.65	.65
July 14	.37	.62	.69	.72	.90	1.02	1.02	1.04	1.08	1.09	1.09	1.09
July 21	.17	.27	.29	.40	.54	.55	.56	.56	.56	.56	.56	.56
Aug. 6	.24	.40	.48	.50	.58	.63	.65	.71	.71	.71	.71	.71
Sept. 16	.18	.32	.34	.35	.35	.42	.43	.44	.44	.44	.44	.44
Sept. 17	.23	.28	.31	.35	.51	.62	.67	.71	.73	.74	.74	.74
Muskegon Airport												
July 28	.25	.43	.60	.67	.70	.71	.95	1.14	1.28	1.29	1.32	1.32
Oct. 6	.27	.35	.38	.41	.43	.50	.58	.62	.62	.62	.62	.62
Nov. 23	.18	.35	.42	.45	.56	.63	.68	.71	.71	.74	.77	.79
Sault Ste. Marie AP												
July 15	.30	.55	.75	.90	1.08	1.13	1.13	1.28	1.32	1.33	1.33	1.33
July 15	.20	.38	.48	.55	.73	.85	.90	.90	.90	.90	.90	.90
MINNESOTA												
Duluth Airport												
May 1	.16	.22	.31	.42	.57	.72	.94	.96	1.08	1.08	1.08	1.09
July 3	.24	.38	.47	.51	.52	.62	.67	.67	.85	.95	1.02	1.02
July 4	.23	.37	.49	.58	.65	.72	.74	.79	.79	.79	.81	.81
July 28	.35	.45	.57	.67	.69	.70	.70	.73	.73	.73	.74	.74
July 29	.36	.40	.45	.47	.51	.58	.60	.61	.62	.62	.64	.74
Aug. 2	.36	.64	.84	.85	.86	.87	.88	.88	.89	.89	.90	.90
Aug. 20	.41	.48	.64	.66	.68	.73	.79	.80	.89	.95	1.36	1.46
Sept. 16	.21	.35	.49	.53	.62	.64	.81	1.02	1.21	1.32	1.34	1.35
International Falls AP												
June 17	.23	.38	.46	.47	.49	.51	.55	.56	.56	.56	.56	.56
June 30	----	----	----	----	----	.65	.65	.65	.65	.65	.65	.65
June 30	.31	.34	.36	.44	.66	.83	.85	.85	.85	.85	.85	.85
June 30	.22	.37	.43	.48	.55	.73	.83	.88	.89	.92	.92	.92
July 6	.42	.62	.79	.97	1.20	1.43	1.45	1.45	1.45	1.45	2.49	2.68
July 28	.18	.35	.45	.53	.53	.56	.56	.56	.56	.56	.56	.56
Aug. 19	.28	.45	.53	.57	.75	.78	.78	.78	.78	.78	.78	.79
Sept. 17	.24	.31	.34	.35	.36	.37	.39	.41	.44	.56	.59	.59
Sept. 18	.15	.19	.25	.29	.43	.65	.80	.93	1.06	1.12	1.22	1.25
Minneapolis AP												
July 7-8	.29	.50	.66	.73	.81	.99	1.15	1.25	1.32	1.45	1.70	2.20
July 11	.27	.44	.48	.50	.53	.63	.67	.74	.80	.85	.88	.91
July 29	.20	.30	.35	.44	.57	.70	.87	.94	.99	1.03	1.05	1.07
Aug. 25-26	.18	.26	.36	.55	.58	.67	.70	.72	.78	.82	.82	.88
Rochester Airport												
May 23	.22	.36	.36	.36	.37	.37	.37	.37	.37	.37	.37	.37
June 5	.23	.31	.35	.36	.42	.44	.44	.45	.63	.69	.70	.71
July 2	.26	.36	.55	.57	.66	.72	.74	.75	.75	.75	.78	.79
July 8	.28	.34	.40	.48	.76	.78	.80	.82	.82	1.10	1.28	1.30
July 29	.30	.52	.64	.66	.70	.83	.84	.85	.85	.85	.85	.85
St. Cloud												
July 2-3	.29	.41	.56	.69	.76	.76	.76	.79	1.13	1.13	1.13	1.13

able 8–Continued

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MINNESOTA (Cont'd.)												
St. Cloud (Cont'd)												
July 3	0.20	0.27	0.37	0.47	0.68	0.81	0.84	0.84	0.85	0.85	0.85	0.85
July 7	.23	.33	.34	.35	.38	.43	.45	.45	.45	.45	.45	.45
July 8	.25	.34	.39	.40	.41	.41	.55	.63	.68	.68	.69	.69
July 22	.40	.58	.67	.75	.75	.75	.75	.75	.75	.75	.75	.75
July 28	.28	.42	.48	.48	.49	.49	.49	.49	.49	.49	.49	.49
July 28	.26	.40	.44	.56	.62	.63	.66	.69	.71	.77	.81	.81
Aug. 6	.26	.32	.35	.38	.41	.46	.52	.58	.60	.60	.61	.74
Aug. 9	.13	.25	.37	.47	.49	.54	.57	.58	.62	.70	.71	.76
Aug. 25	.25	.40	.50	.60	.90	.98	1.30	1.35	1.37	1.42	1.57	1.65
Sept. 16	.40	.45	.46	.47	.47	.47	.52	.55	.57	.58	.63	.63
Oct. 5	.40	.67	.74	.75	.78	.79	.81	.81	.81	.81	.81	.81
MISSISSIPPI												
Jackson Airport												
Mar. 21	.37	.49	.51	.53	.56	.68	.88	1.21	1.25	1.26	1.38	1.47
Apr 12	.28	.43	.60	.67	.86	1.12	1.30	1.44	1.87	2.30	2.43	2.57
May 14	.25	.33	.37	.39	.39	.40	.40	.40	.41	.41	.41	.41
May 20	.26	.36	.37	.38	.47	.67	.70	.70	.70	.70	.70	.70
July 3	.25	.40	.56	.63	.70	.71	.72	.74	.74	.75	.75	.75
July 4	.28	.35	.38	.40	.42	.44	.44	.44	.44	.44	.44	.44
July 11	.25	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26
July 13	.31	.58	.80	.90	.90	.90	.90	.90	.90	.90	.90	.90
July 15	.30	.43	.46	.47	.47	.47	.47	.47	.47	.47	.47	.47
July 17	.25	.50	.75	.85	.96	1.00	1.05	1.07	1.11	1.18	1.22	1.24
July 21	.25	.37	.52	.69	.79	1.03	1.21	1.32	1.40	1.52	1.68	1.78
July 21	.34	.59	.87	1.01	1.07	1.08	1.08	1.08	1.08	1.08	1.08	1.08
July 22	.22	.34	.39	.53	.62	.73	.83	.85	.86	.88	.96	1.01
July 27	.28	.56	.81	.96	1.40	1.52	1.54	1.54	1.54	1.54	1.60	1.62
July 28	.30	.48	.51	.54	.70	.70	.70	.70	.71	.72	.73	.73
July 30	.30	.50	.58	.67	.71	.74	.77	.80	.81	.81	.81	.81
Nov. 2	.26	.33	.35	.35	.35	.35	.36	.41	.41	.42	.42	.42
Dec. 18	.34	.39	.42	.43	.45	.54	.66	.72	.83	.83	.85	.86
eridian Airport												
Feb. 6	.25	.38	.50	.55	.61	.72	.76	.86	.98	.99	1.01	1.02
Mar. 4	.24	.45	.60	.65	.77	.83	.89	.95	1.08	1.14	1.21	1.30
May 23	.47	.49	.50	.51	.55	.56	.57	.97	.98	1.20	1.21	1.33
July 20	.20	.33	.45	.52	.74	.98	1.01	1.15	1.20	1.20	1.23	1.24
July 22	.20	.34	.52	.55	.57	.65	.67	.67	.68	.69	.70	.70
July 29	.40	.58	.68	.70	.75	.76	.80	.85	.85	.85	.85	.85
Aug. 8	.17	.25	.38	.45	.60	.68	.77	.81	.82	.82	.82	.82
Aug. 30	.20	.33	.45	.52	.74	.98	1.01	1.15	1.20	1.20	1.23	1.24
Oct. 28	.15	.26	.37	.40	.55	.65	.69	.69	.69	.69	.73	.73
Nov. 2	.38	.50	.51	.51	.51	.51	.51	.51	.51	.51	.51	.51
icksburg												
Jan. 10	.17	.31	.37	.46	.50	.64	.79	.90	.94	1.03	1.09	1.12
Mar. 21	.30	.57	.72	.78	.91	1.06	1.21	1.36	1.55	1.62	1.72	1.77
Apr. 6	.29	.42	.46	.57	.67	.68	.74	.86	.86	.86	.91	.92
Apr. 12	.13	.26	.39	.47	.64	.73	.81	.96	1.05	1.10	1.25	1.38
May 14	.53	.71	.80	.86	.94	1.23	1.44	1.52	1.52	1.52	1.52	1.52
May 23	.37	.66	.93	1.08	1.58	1.83	2.28	2.38	2.43	2.51	2.53	2.71
June 28	.36	.62	.81	1.11	1.33	1.42	1.43	1.44	1.44	1.44	1.44	1.44
June 29	.29	.46	.52	.63	.82	.94	.94	.94	.94	.94	.94	.94
July 3	.25	.44	.59	.75	.86	.90	.96	.99	1.00	1.04	1.37	1.44
July 13	.40	.73	.92	1.00	1.03	1.21	1.38	1.39	1.42	1.43	1.44	1.70
July 23	.25	.45	.55	.56	.56	.56	.56	.56	.56	.56	.56	.56
July 29	.22	.36	.41	.44	.47	.50	.50	.50	.50	.50	.50	.50
Nov. 2	.27	.33	.39	.47	.53	.62	.71	.71	.71	.71	.71	.71
Dec. 18	.11	.21	.31	.40	.45	.50	.71	.73	.83	.83	.83	.83
MISSOURI												
olumbia Airport												
Apr. 23	.29	.33	.35	.35	.35	.45	.57	.57	.57	.57	.58	.58
May 9	.26	.27	.28	.30	.33	.37	.38	.38	.38	.38	.38	.38
June 19	.16	.32	.45	.61	.73	.77	.81	.87	.90	.92	.92	.92
June 24	.19	.32	.41	.43	.45	.47	.48	.50	.51	.52	.55	.59
June 24	.25	.35	.40	.43	.43	.45	.48	.52	.53	.54	.54	.54
June 24	.45	.67	.75	1.00	1.33	1.66	1.86	2.08	2.12	2.16	2.21	2.21
Aug. 7	.25	.45	.65	.80	.99	1.08	1.12	1.13	1.15	1.20	1.29	1.40
Aug. 29	.33	.46	.64	.72	.95	1.03	1.32	1.85	2.10	2.19	2.34	2.35
Sept. 21	.25	.37	.54	.65	1.02	1.11	1.12	1.12	1.12	1.12	1.12	1.12
Sept. 27	.26	.45	.65	.83	1.01	1.25	1.31	1.38	1.45	1.52	1.65	1.71
Oct. 4	.19	.26	.37	.40	.46	.50	.63	.75	.85	.96	1.09	1.25
Oct. 5	.22	.28	.35	.41	.58	.64	.72	.82	.90	1.00	1.11	1.12
ansas City AP												
Apr. 12	.30	.50	.58	.63	.67	.72	.94	.95	.95	.95	.95	.95
May 26	.28	.53	.63	.65	.71	.72	.74	.76	.77	.78	.84	.90
May 27	.27	.33	.45	.54	.77	.77	.78	.86	.89	.96	.97	.97
May 27	.20	.31	.35	.38	.52	.61	.65	.69	.71	.71	.71	.71
June 25	.30	.48	.76	.82	.84	.91	1.06	1.21	1.21	1.28	1.31	1.32
June 28	.27	.43	.54	.57	.59	.63	.65	.65	.65	.65	.65	.66
June 29	.14	.25	.33	.34	.48	.70	.72	.73	.73	.73	.77	.81
Aug. 7	.25	.47	.67	.85	1.18	1.34	1.41	1.44	1.49	1.52	1.54	1.56
Sept. 27	.20	.25	.33	.40	.53	.60	.61	.73	.80	.80	.82	.88
t. Joseph*												
Aug. 29	.25	.45	.58	.65	.78	.94	1.01	1.06	1.08	1.18	1.28	1.45
Oct. 6	.25	.40	.55	.60	.80	.83	.84	.85	.87	.92	.92	.92
Oct. 11	.29	.58	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
t. Louis												
Apr. 23	.22	.36	.44	.48	.48	.51	.51	.52	.52	.53	.53	.53
June 25	.15	.27	.37	.49	.60	.75	.84	.97	1.03	1.09	1.18	1.21
July 4	.51	.77	.86	.87	.89	.89	.89	.89	.89	.89	.89	.89
July 5	.17	.21	.32	.43	.54	.57	.60	.63	.66	.69	.70	.70
July 17	.26	.42	.56	.66	.76	.83	.97	1.01	1.01	1.01	1.01	1.01
July 23	.26	.37	.45	.62	.90	1.30	1.63	1.91	1.96	2.09	2.13	2.15
Aug. 10	.23	.45	.57	.77	1.11	1.23	1.25	1.29	1.29	1.29	1.31	1.43
Sept. 10	.18	.26	.39	.40	.40	.43	.44	.51	.54	.56	.61	.63
Sept. 22	.27	.38	.52	.53	.54	.54	.54	.55	.57	.64	.94	1.14
Oct. 6	.26	.41	.42	.42	.44	.44	.44	.65	.66	.67	.67	.72
pringfield												
May 21	.26	.46	.53	.56	.57	.57	.57	.58	.59	.59	.62	.64
May 28	.19	.36	.44	.51	.67	.73	.80	.83	.85	.90	.90	.90
June 6	.24	.30	.31	.32	.32	.32	.35	.37	.39	.39	.39	.39
July 21	.30	.46	.67	.68	.70	.75	.75	.75	.75	.75	.75	.75
July 23	.31	.38	.47	.60	.73	1.02	1.09	1.10	1.16	1.17	1.17	1.17

*Excessive precipitation not computed from Aug. 1, 1954-Aug. 1, 1955

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MONTANA												
Billings Airport												
July 6	0.60	0.74	0.85	0.88	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Great Falls AP												
July 22	.21	.37	.51	.67	.85	.92	.95	.97	.97	.97	.99	.99
Havre												
July 24	.29	.39	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Helena Airport												
June 24	.36	.39	.43	.44	.45	.46	.46	.47	.54	.56	.57	.57
July 10	.30	.48	.60	.85	.89	.89	.91	.98	.98	.98	.98	.98
July 25	.22	.34	.42	.42	.43	.47	.48	.49	.49	.49	.49	.49
Kalispell Airport												
June 27	.15	.30	.45	.49	.53	.55	.55	.55	.55	.59	.59	.59
Missoula Airport						None						
NEBRASKA												
Grand Island AP												
May 18	.26	.34	.35	.36	.36	.36	.36	.36	.36	.36	.36	.36
Aug. 9	.15	.40	.60	.66	.75	.77	.77	.77	.78	.78	.78	.78
Lincoln												
May 9	.25	.26	.27	.27	.28	.28	.28	.28	.28	.28	.28	.28
June 24	.36	.48	.50	.50	.50	.51	.90	.91	.93	.94	.95	.95
June 24	.34	.49	.53	.54	.55	.56	.56	.57	.58	.62	.95	.97
July 22	.16	.28	.39	.43	.46	.46	.46	.47	.47	.47	.47	.47
Sept 20**	-	-	--	---	1.50	2.10	-		-	-		---
Norfolk Airport												
May 26	.22	.44	.54	.65	.75	.90	1.04	1.05	1.09	1.09	1.10	1.15
July 4	.20	.31	.35	.37	.39	.48	.50	.50	.50	.50	.50	.50
July 13	.33	.34	.35	.37	.37	.37	.37	.37	.37	.37	.37	.52
July 19	.15	.25	.33	.42	.51	.55	.56	.56	.56	.56	.56	.56
Aug. 9	.30	.50	.65	.74	.76	.76	.76	.76	.76	.76	.76	.76
North Platte AP												
Apr 23	.40	.75	.82	.88	.97	.99	1.00	1.02	1.05	1.08	1.17	1.28
May 17	.16	.25	.30	.39	.49	.71	.79	.81	.85	.87	.87	.94
June 27	.55	.80	1.30	1.52	1.77	2.08	2.27	2.34	2.37	2.38	2.43	2.45
June 28	.25	.48	.68	.86	.98	1.03	1.05	1.11	1.12	1.14	1.15	1.15
Omaha Airport												
Apr. 23	.40	.53	.70	.95	1.12	1.50	1.58	1.60	1.60	1.60	2.00	2.09
June 4	.37	.55	.58	.61	.65	.98	1.12	1.27	1.33	1.38	1.42	1.48
July 5	-	-	-	-	-	-	-	-	1.29	1.34	1.34	1.34
July 8	.20	.40	.58	.78	1.09	1.41	1.59	1.60	1.64	1.65	1.65	1.65
July 19	.28	.29	.29	.31	.31	.38	.40	.43	.45	.45	.72	.75
Aug 9	.22	.40	.56	.66	.73	.78	.80	.81	.81	.81	.81	.81
Sept. 18	.24	.41	.48	.52	.56	.58	.58	.58	.59	.59	.59	.60
Sept. 20	.54	.94	1.17	1.30	1.38	1.43	1.52	1.60	1.78	1.87	1.91	1.99
Scottsbluff												
May 16	.35	.59	.61	.62	.64	.65	.92	.97	.99	1.01	1.05	1.17
May 25	.16	.27	.35	.45	.57	.73	.83	.93	1.03	1.09	1.18	1.23
June 27	.30	.45	.49	.50	.50	.50	.55	.55	.55	.55	.55	.55
Valentine												
June 18	.31	.41	.46	.46	.47	.47	.47	.47	.47	.47	.47	.47
NEVADA												
Elko						None						
Ely Airport						None						
Reno Airport						None						
Winnemucca AP						None						
NEW HAMPSHIRE												
Concord												
May 31	.12	.20	.26	.37	.50	.68	.81	1.00	1.12	1.20	1.31	1.35
Aug. 5	.29	.48	.52	.53	.53	.53	.53	.53	.53	.53	.53	.53
Sept. 11	.20	.35	.38	.44	.57	.58	.58	.58	.58	.58	.58	.58
NEW JERSEY												
Atlantic City												
Apr. 24	.28	.35	.37	.38	.40	.43	.45	.53	.62	.71	.81	.85
July 24	.56	.91	1.23	1.38	1.54	1.58	1.60	1.64	1.65	1.66	1.93	2.02
Aug. 12	.20	.31	.45	.48	.49	.52	.63	.66	.71	.79	.88	.90
Aug. 31-Sept. 1	.20	37	.41	.46	.56	.73	1.04	1.32	1.48	1.65	1.67	1.71
Oct. 15	.29	.55	.70	.75	.77	.92	.92	.93	.93	.93	.93	.93
Newark Airport												
June 24	.39	.45	.46	.47	.47	.47	.47	.47	.47	.47	.47	.47
July 10	.19	.34	.41	.45	.49	.50	.57	.60	.62	.67	.75	.79
Aug. 7	.33	.57	.71	.73	.77	.78	.78	.78	.78	.78	.78	.78
Aug 7	.35	.56	.73	.84	.91	.96	1.06	1.45	1.62	2.08	2.23	2.28
Oct 30	.24	.32	.38	.39	.48	.52	.54	.60	.92	.98	1.02	1.12
Trenton												
May 31	.17	.33	.36	.37	.41	.43	.44	.44	.44	.45	.45	.45
June 5	.40	.48	.48	.48	.70	.88	.88	.91	.93	.93	.93	.93
July 10	.13	.23	.27	.37	.54	.57	.57	.59	.59	.59	.59	.59
Aug. 7	.71	1.17	1.68	2.08	2.57	2.79	2.90	2.90	3.00	3.18	3.56	3.57
Aug. 11	.26	.43	.55	.55	.56	.59	.59	.59	.59	.59	.99	1.10
Aug. 13	.14	.21	.29	.37	.55	.67	.91	1.16	1.44	1.67	1.87	2.01
Aug. 18	.21	.33	.46	.50	.67	.74	.78	.91	.99	1.06	1.15	1.22
Oct. 14	.21	.35	.43	.49	.67	.91	1.13	1.50	1.69	1.90	2.21	2.52
NEW MEXICO												
Albuquerque AP												
Sept. 24	.50	.85	1.10	1.17	1.23	1.31	1.32	1.36	1.37	1.41	1.42	1.42
Roswell Airport												
Sept. 26	.24	.39	.52	.67	.93	1.13	1.58	1.61	1.75	1.79	2.38	2.62

**Values estimated, recorder inoperative.

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
NEW YORK												
Albany												
June 25	0.28	0.29	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Aug. 11	.24	.32	.44	.46	.56	.68	.74	.76	.88	1.12	1.45	1.51
Aug. 13	.20	.29	.45	.55	.75	.75	.75	.75	.75	.75	.75	.75
Binghamton Airport												
May 29	.53	.73	.74	.85	.93	.98	1.00	1.04	1.05	1.07	1.09	1.09
June 21	.32	.39	.40	.41	.41	.41	.55	.57	.57	.57	.57	.57
June 25	.29	.39	.42	.43	.43	.43	.43	.43	.43	.43	.43	.43
Aug. 18	.21	.36	.46	.47	.50	.50	.50	.52	.62	.70	.79	.87
Aug. 30	.15	.30	.44	.58	.73	.94	.99	1.05	1.10	1.14	1.20	1.20
Sept. 15	.28	.43	.50	.52	.53	.53	.59	.64	.68	.74	.77	.77
Oct. 15	.25	.27	.31	.35	.38	.44	.58	.86	.93	1.03	1.09	1.16
Buffalo Airport												
July 23	.25	.50	.60	.65	.70	.82	.85	.88	.89	.89	.89	.89
July 27	.21	.40	.52	.55	.60	.75	.82	.90	1.03	1.08	1.08	1.08
Aug. 10-11	.27	.45	.56	.64	.75	1.20	1.34	1.40	1.45	1.51	1.54	1.58
Sept. 14	.15	.30	.43	.45	.52	.55	.78	.82	.82	.82	.82	.82
New York Airport												
May 23	.25	.42	.57	.67	.77	.82	.83	.84	.84	.84	.84	.84
June 24	.28	.29	.29	.29	.29	.29	.30	.30	.30	.30	.30	.30
Aug. 7	.18	.36	.45	.53	.65	.72	.73	.73	.73	.73	.82	.82
Aug. 11	.30	.52	.65	.79	.80	.93	.96	1.02	1.28	1.55	1.65	1.65
Aug. 12	.16	.26	.36	.45	.57	.67	.90	1.04	1.14	1.38	1.66	1.76
Aug. 13	.27	.46	.72	.86	1.14	1.45	1.66	1.95	2.11	2.16	2.33	2.69
New York												
May 23	.30	.40	.46	.50	.55	.56	.57	.58	.58	.58	.58	.58
Aug. 7	.41	.64	.72	.77	.83	.94	1.26	1.38	1.40	1.44	1.52	1.61
Aug. 11	.27	.30	.30	.33	.34	.34	.35	.37	.50	.51	.57	1.00
Aug. 12	.38	.65	.82	.87	.91	.93	.94	1.20	1.27	1.28	1.49	1.84
Aug. 13	.25	.39	.48	.54	.66	.83	.91	.96	1.07	1.08	1.16	1.16
Oct. 16	.14	.26	.40	.48	.62	.72	.73	.73	.75	.89	1.07	1.12
Nov. 3	.23	.32	.40	.47	.57	.67	.75	.91	.92	.95	.98	1.01
Rochester Airport												
Aug. 22	.40	.50	.73	.79	.81	.86	.89	.89	.89	.89	.90	.91
Oct. 6	.20	.30	.32	.34	.35	.36	.45	.56	.70	.80	.90	.96
Syracuse Airport												
May 25	.24	.36	.46	.56	.61	.62	.64	.64	.65	.65	.65	.65
June 21	.24	.30	.33	.36	.38	.40	.44	.46	.62	.65	.65	.85
June 22	.28	.33	.33	.34	.37	.38	.39	.39	.39	.39	.39	.39
July 15	.46	.67	.76	.79	.81	.82	.82	.89	.90	.90	.92	1.24
July 15	.15	.29	.38	.45	.58	.74	.77	.77	.77	.77	.77	.77
Aug. 30	.41	.51	.74	1.01	1.12	1.18	1.18	1.18	1.18	1.18	1.18	1.18
NORTH CAROLINA												
Asheville												
Apr. 24	.35	.37	.41	.42	.42	.42	.42	.42	.42	.42	.50	.50
May 12	.15	.20	.33	.46	.49	.61	.66	.69	.72	.78	.81	.83
May 14	.25	.35	.46	.58	.67	.79	.88	.93	.97	1.02	1.02	1.03
July 10	.14	.25	.33	.40	.54	.58	.59	.60	.60	.60	.60	.60
July 21	.24	.35	.35	.35	.41	.43	.43	.43	.43	.44	.44	.44
Aug. 7	.30	.50	.64	.71	.77	.78	.81	.89	.94	.96	.97	.99
Aug. 11	.23	.39	.45	.47	.47	.54	.80	.81	.81	.81	.81	.94
Charlotte												
Mar. 12	.45	.65	.67	.67	.67	.68	.68	.68	.68	.68	.68	.68
Apr. 13	.24	.40	.47	.55	.85	.95	.98	1.05	1.07	1.09	1.20	1.28
May 21	.34	.49	.59	.66	.71	.73	.73	.75	.76	.79	.82	.84
May 22	.35	.51	.53	.64	.85	.94	1.07	1.11	1.11	1.12	1.97	2.07
July 12	.15	.28	.40	.55	.83	.87	.87	.87	.89	.89	.89	1.12
Sept. 30	.43	.80	1.12	1.30	1.45	1.70	1.76	1.78	1.79	1.79	1.79	1.80
Oct. 1	.20	.36	.48	.68	.91	1.38	1.64	1.76	1.83	1.90	2.00	2.19
Greensboro AP												
Aug. 14	.17	.27	.44	.47	.67	.77	1.02	1.31	1.48	1.72	1.96	2.08
Sept. 30	.17	.29	.40	.52	.65	.93	1.18	1.27	1.33	1.33	1.33	1.34
Hatteras												
Mar. 5	.26	.28	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29
Mar. 12	.26	.35	.40	.45	.49	.52	.52	.52	.52	.52	.52	.52
June 23	.21	.29	.42	.48	.56	.75	.77	.89	.98	1.13	1.56	1.75
July 19	.26	.51	.70	.85	1.13	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Aug. 11	.20	.32	.45	.59	.76	1.13	1.48	1.86	2.02	2.18	2.51	2.80
Aug. 19	.22	.35	.40	.46	.57	.57	.57	.57	.57	.57	.57	.57
Aug. 24	.21	.39	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
Sept. 3	.25	.44	.63	.69	.75	.95	1.17	1.35	1.35	1.35	1.36	1.37
Sept. 3	.30	.56	.77	.87	.87	----	----	----	----	----	----	----
Sept. 4	.27	.50	.68	.79	.83	.92	.92	.99	.99	1.03	1.03	1.04
Sept. 6	.15	.30	.43	.58	.74	.93	.98	.99	1.02	1.02	1.03	1.04
Sept. 11	.23	.39	.51	.79	1.04	1.10	1.19	1.28	1.45	1.56	1.66	1.79
Sept. 18	.18	.27	.40	.43	.47	.73	.92	1.10	1.23	1.46	1.67	1.77
Sept. 23	.26	.37	.42	.42	.43	.44	.55	.65	.67	.69	.76	.80
Nov. 19	.38	.42	.43	.43	.44	.46	.49	.56	.61	.62	.69	.79
Raleigh Airport												
Feb. 11	.25	.32	.40	.47	.50	.53	.56	.59	.61	.63	.65	.67
Apr. 24	.32	.34	.34	.34	.36	.36	.36	.36	.36	.36	.36	.36
May 22	.25	.35	.75	.88	.93	.95	1.00	1.01	1.01	1.02	1.02	1.02
June 19	.35	.53	.55	.57	.58	.61	.65	.65	.65	.65	.65	.65
July 7	.28	.50	.54	.55	.55	.56	.56	.56	.56	.59	.63	.63
July 10	.20	.30	.36	.37	.39	.41	.47	.51	.52	.53	.90	1.00
July 11	.45	.60	.68	.70	.71	.92	.96	.96	.96	.96	.96	.96
July 20	.30	.60	.85	1.10	1.43	1.57	1.59	1.60	1.60	1.60	1.60	1.60
July 30	.45	.50	.52	.54	.55	.57	.58	.58	.58	.63	.63	.63
Aug. 3	.25	.45	.65	.77	.80	.80	.80	.80	.80	.80	.80	.80
Aug. 16	.40	.47	.48	.48	.48	.50	.50	.50	.65	.73	.74	.74
Aug. 23	.25	.32	.33	.34	.35	.35	.35	.35	.36	.37	.38	.39
Aug. 31	.25	.45	.63	.74	.75	.84	.90	1.03	1.32	1.53	1.62	1.62
Sept. 1	.30	.45	.55	.64	.67	.70	.70	.70	.70	.70	.70	.70
Wilmington AP												
Mar. 3	.29	.49	.54	.76	1.03	1.14	1.16	1.18	1.18	1.18	1.18	1.18
May 11	.25	.38	.47	.47	.48	.48	.48	.48	.48	.48	.48	.48
May 13	.33	.50	.58	.58	.68	.69	.70	.71	.71	.71	.71	.71
July 4	.31	.53	.82	1.08	1.29	1.53	1.60	1.61	1.62	1.62	1.62	1.62
July 18	.24	.46	.63	.72	.89	1.00	1.04	1.06	1.06	1.06	1.06	1.06
July 19	.49	.87	1.14	1.37	1.72	2.10	2.52	2.92	3.02	3.12	3.12	3.12
Aug. 10	.17	.27	.32	.41	.45	.57	.66	.66	.66	.75	.78	.78
Sept. 4	.40	.59	.68	.69	.69	.69	.69	.69	.69	.69	.69	.69
Sept. 19	.09	.17	.23	.30	.45	.67	.86	1.02	1.23	1.33	1.61	1.76

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	18
NORTH DAKOTA												
Bismarck Airport						None						
Bismarck												
July 28	Excessive rains occurred - estimated											
Aug. 5	0.75	1.50	----	----	1.85	----	----	----	----	----	----	--
Devils Lake												
Aug. 3	.32	.42	0.49	0.57	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.
Aug. 16	.30	.42	.45	.52	.77	1.02	1.15	1.35	1.42	1.48	1.59	1.
Fargo Airport												
July 4	.38	.68	.86	.96	1.04	1.09	1.30	1.53	1.57	1.59	1.62	1.
July 12	.26	.50	.68	.84	1.04	1.11	1.14	1.19	1.22	1.26	1.34	1.
Williston												
June 28	.30	.60	.74	.79	.83	.85	.98	.98	.99	1.02	1.07	1.
Aug. 13	.22	.31	.33	.34	.40	.42	.42	.44	.45	.45	.46	.
OHIO												
Akron Airport*												
May 24	.25	.50	.57	.70	.89	.96	.97	.98	.99	.99	.99	.
July 27	.20	.30	.38	.45	.47	.48	.48	.48	.48	.48	.48	.
Aug. 7	.20	.35	.45	.53	.54	.55	.55	.55	.55	.55	.55	.
Sept. 8	.19	.33	.35	.45	.53	.54	.55	.55	.58	.60	.60	.
Nov. 14	.22	.28	.50	.56	.67	.73	.80	.81	.81	.81	.81	.
Cincinnati Abbe Obs.												
Apr. 6	.44	.59	.61	.63	.64	.64	.64	.65	.65	.65	.65	.
July 3	.26	.31	.39	.40	.41	.46	.48	.50	.50	.50	.51	.
July 9	.22	.42	.46	.47	.61	.69	.70	.70	1.04	1.09	1.13	1.
July 14	.23	.35	.45	.49	.50	.50	.50	.50	.50	.50	.50	.
July 26	.33	.53	.76	.93	1.29	1.56	1.57	1.57	1.57	1.57	1.57	1.
July 28	.19	.34	.45	.55	.77	.79	.79	.79	.79	.79	.79	.
Aug. 10	.24	.35	.41	.57	.76	.84	.84	.85	.85	.85	.85	.
Aug. 21	.38	.60	.76	.83	1.00	1.06	1.06	1.06	1.06	1.06	1.91	2.
Aug. 22	.32	.53	.84	.99	1.03	1.04	1.05	1.05	1.05	1.05	1.05	1.
Sept. 10	.40	.72	.85	.95	1.08	1.10	1.10	1.11	1.12	1.12	1.12	1.
Sept. 21	.60	1.08	1.32	1.43	1.49	1.65	1.67	1.90	2.11	2.16	2.20	2.
Sept. 29	.29	.49	.63	.69	.74	.81	.84	.88	.95	.99	1.02	1.
Oct. 6	.16	.23	.33	.41	.52	.58	.63	.68	.72	.78	1.18	1.
Nov. 15	.39	.51	.53	.55	.56	.57	.59	.60	.60	.60	.60	.
Nov. 16	.28	.35	.39	.41	.53	.54	.54	.54	.76	.79	.79	.
Cleveland Airport												
May 24	.39	.49	.69	.90	1.15	1.46	1.80	2.26	2.72	3.02	3.23	3.
July 8	.32	.52	.54	.55	.57	.57	.57	.57	.57	.57	.57	.
Aug. 7	.25	.33	.33	.33	.33	.34	.34	.34	.34	.34	.34	.
Columbus Airport**												
June 7	.23	.33	.43	.45	.46	.49	.54	.58	.59	.61	.61	.
July 6	.55	.80	1.00	1.13	1.45	1.85	2.40	2.51	2.54	2.56	2.58	2.
July 9	.25	.33	.37	.40	.44	.52	.65	.67	.67	.67	.67	.
Aug. 22	.29	.39	.48	.49	.52	.61	.62	.62	.62	.62	.62	.
Dayton Airport												
Apr. 20	.27	.32	.32	.41	.60	.66	.68	.68	.70	.71	.71	.
July 9	.40	.70	1.00	1.30	1.73	2.06	2.31	2.67	3.10	3.14	3.16	3.
July 19	.35	.55	.70	.90	1.06	1.11	1.25	1.45	1.53	1.57	1.63	1.
Nov. 16	.21	.31	.50	.61	.64	.74	1.04	1.18	1.21	1.54	1.89	2.
Sandusky												
May 22	.20	.33	.53	.54	.54	.55	.55	.55	.55	.55	.55	.
July 10	.28	.54	.54	.54	.54	.54	.54	.54	.54	.54	.55	.
July 24	.33	.44	.55	.61	.71	1.15	1.18	1.33	1.44	1.54	1.65	1.
Aug. 6	.22	.41	.47	.48	.50	.51	.52	.54	.55	.57	.72	.
Aug. 10	.18	.25	.35	.42	.42	.42	.42	.42	.42	.42	.42	.
Toledo Airport												
June 30	.27	.43	.48	.53	.54	.56	.57	.59	.60	.60	.60	
July 27	.30	.40	.43	.45	.46	.47	.48	.48	.48	.48	.48	.
Aug. 6	.22	.36	.39	.40	.41	.45	.49	.54	.62	.70	.71	.
Youngstown AP												
May 28	.25	.35	.40	.42	.44	.47	.50	.52	.52	.52	.52	.
June 8	.15	.28	.38	.45	.61	.72	.84	.93	.98	1.03	1.12	1.
July 1	.40	.54	.68	.72	.75	.95	1.09	1.22	1.32	1.35	1.40	1.
July 6	.16	.28	.32	.40	.42	.44	.44	.45	.45	.45	.45	.
Aug. 7	.30	.41	.42	.43	.44	.44	.45	.47	.50	.54	.55	.
Nov. 16	.40	.61	.65	.75	.96	1.42	1.57	1.64	1.70	1.74	1.82	1.
OKLAHOMA												
Oklahoma City AP												
May 9	.25	.30	.33	.40	.48	.56	.58	.59	.59	.59	.59	.
May 19	.22	.35	.50	.55	.64	1.02	1.25	1.35	1.44	1.82	2.03	2.
May 26	.41	.55	.61	.64	.65	.67	.76	.89	1.01	1.06	1.07	1
June 4	.45	.75	.85	.90	1.18	1.19	1.20	1.20	1.20	1.20	1.21	1.
June 8	.20	.39	.55	.56	.56	.67	.86	.92	.93	.93	.93	.
June 16	.85	1.35	1.85	2.40	2.97	3.32	3.32	3.58	3.60	3.60	3.64	3.
Aug. 7	.28	.39	.40	.42	.59	.60	.60	.60	.60	.60	.60	
Aug. 9-10	.35	.45	.67	.72	.83	.92	.96	.97	.98	.99	1.04	1
Aug. 29	.38	.48	.52	.60	.66	.67	.67	.68	.70	.71	.71	
Sept. 10	.15	.26	.33	.43	.50	.50	.50	.53	.53	.53	.55	
Sept. 22	.25	.38	.50	.55	.80	.95	1.02	1.05	1.08	1.13	1.25	1.
Sept. 25	.15	.28	.35	.45	.49	.49	.49	.49	.49	.49	.49	
Oct. 2	.23	.38	.55	.65	.80	1.10	1.26	1.54	1.81	1.99	2.44	2.
Tulsa Airport												
July 3	.25	.30	.45	.50	.60	.63	.86	.90	1.01	1.02	1.02	1
July 10	.25	.39	.64	.75	.86	.94	.95	.98	.98	.98	.98	
July 17	.45	.85	1.05	1.30	1.55	1.60	1.66	1.66	1.66	1.66	1.66	1
Aug. 9	.25	.38	.50	.58	.66	.70	.70	.70	.70	.70	.72	
Aug. 28	.23	.30	.40	.47	.50	.53	.55	.56	.57	.61	.62	.
OREGON												
Astoria Airport												
Dec. 20	.30	.38	.41	.43	.45	.52	.68	.80	1.05	1.07	1.16	1
Dec. 21	.13	.18	.20	.28	.43	.60	.78	1.00	1.20	1.35	1.55	1
Burns												
July 10	.23	.35	.50	.55	.68	.77	.85	.91	1.02	1.07	1.17	1

* Substation Union Depot recorded 3.35 in. in 180 minutes on Nov. 16

** Data before July 1 from City Office.

Table 8—Continued

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
OREGON (Cont'd.)												
Eugene						None						
Meacham Airport						None						
Medford Airport						None						
Pendleton						None						
Portland						None						
Roseburg Airport						None						
Sexton Summit						None						
PENNSYLVANIA												
Allentown Airport												
May 23	0.50	0.79	0.83	0.86	1.10	1.28	1.47	1.54	1.62	1.68	1.77	1.80
June 12	.50	.56	.58	.59	.59	.59	.59	.59	.59	.59	.59	.61
Aug. 7	.20	.37	.42	.43	.51	.52	.53	.53	.54	.55	.57	.57
Aug. 13	.15	.25	.35	.45	.65	.83	.90	1.00	1.06	1.16	1.70	2.00
Aug. 18	.35	.60	.85	1.10	1.37	1.65	1.82	2.05	2.07	2.26	2.49	2.62
Oct. 15	.15	.25	.35	.41	.60	.75	.96	.97	.97	.97	.97	.97
Harrisburg Airport												
June 11	.21	.30	.38	.44	.57	.65	.65	.66	.66	.66	.69	.72
Aug. 30	.33	.60	.93	1.21	1.42	1.49	1.54	1.63	1.65	1.65	1.65	1.66
Sept. 5	.28	.48	.49	.50	.66	.67	.68	.68	.68	.68	.68	.68
Oct 29	.22	.41	.49	.52	.59	.61	.62	.62	.62	.62	.62	.62
Philadelphia AP												
July 24	.25	.40	.52	.57	.73	.76	.78	.81	.82	.82	.82	.82
Aug. 13	.21	.32	.40	.44	.55	.60	.75	.84	.89	1.11	1.26	1.47
Aug. 18	.29	.50	.76	1.00	1.23	1.36	1.38	1.39	1.47	1.47	1.58	1.60
Aug. 18	.14	.27	.36	.40	.52	.53	.53	.54	.54	.54	.55	.60
Oct. 14	.22	.39	.49	.56	.64	.89	1.08	1.21	1.30	1.34	1.44	1.50
Oct. 15	.20	.29	.40	.49	.60	.68	.77	.80	.82	.82	.90	.91
Pittsburgh Airport												
May 22	.20	.26	.40	.57	.59	.60	.60	.60	.60	.60	.60	.60
July 8	.29	.39	.43	.44	.44	.44	.44	.44	.53	.53	.53	.53
July 18	.35	.60	.65	.67	.69	.74	.76	.80	.80	.80	.80	.80
July 27	.25	.40	.45	.46	.51	.54	.54	.54	.54	.54	.54	.54
Aug. 30	.22	.32	.33	.35	.41	.42	.42	.42	.42	.42	.42	.42
Pittsburgh												
July 27	.26	.48	.56	.58	.60	.60	.60	.60	.60	.60	.60	.60
Aug. 4	.25	.42	.44	.44	.44	.68	.73	.73	.73	.73	.73	.73
Aug. 5	.17	.32	.35	.38	.50	.50	.51	.66	.67	.67	.67	.67
Aug. 11	.20	.23	.32	.43	.55	.59	.78	.99	1.28	1.32	1.35	1.40
Aug. 22	.24	.44	.51	.54	.59	.66	.72	.75	.75	.75	.75	.78
Aug. 30	.23	.32	.40	.51	.52	.55	.56	.65	.66	.66	.66	.66
Reading												
Mar. 22	.20	.37	.46	.50	.53	.58	.59	.64	.68	.72	.74	.75
Apr. 19	.21	.30	.38	.42	.43	.44	.44	.44	.44	.44	.45	.45
May 29	.25	.32	.32	.34	.47	.53	.54	.55	.56	.56	.56	.61
June 12	.58	.67	.68	.68	.68	.68	.68	.68	.68	.68	.68	.68
June 12	.39	.63	.69	.70	.70	.70	.93	.94	.97	1.03	1.08	1.10
July 6	.32	.47	.55	.58	.60	.61	.61	.61	.61	.61	.61	.61
July 10	.27	.50	.66	.76	.83	.84	.84	.85	.86	.86	.86	.86
Aug. 6	.21	.42	.58	.75	.97	1.01	1.02	1.03	1.03	1.03	1.03	1.03
Aug. 11	.34	.52	.57	.60	.65	.75	.85	.85	.85	.85	.85	.85
Aug. 12	.28	.48	.72	.79	.84	.86	.90	.96	.97	.98	1.26	1.48
Aug. 18	.25	.42	.49	.51	.77	.95	1.09	1.14	1.18	1.20	1.24	1.28
Aug. 18	.47	.67	.71	.97	1.24	1.27	1.31	1.35	1.42	1.43	1.43	1.44
Oct. 29	.23	.39	.43	.58	.71	.86	.89	.92	.96	1.01	1.04	1.05
Scranton Airport												
May 29	.38	.47	.53	.55	.69	.77	.79	.84	.87	.92	.95	1.02
July 24	.22	.31	.32	.33	.36	.39	.39	.40	.40	.40	.40	.40
Aug. 7	.27	.42	.60	.65	.68	.70	.70	.70	.70	.70	.70	.70
Aug. 18	.19	.36	.47	.52	.76	1.01	1.13	1.21	1.27	1.39	1.56	1.71
Aug. 22	.22	.35	.36	.36	.36	.36	.36	.36	.37	.37	.37	.37
Aug. 22	.15	.30	.35	.41	.55	.65	.68	.71	.71	.71	.71	.71
Sept. 11	.17	.30	.45	.50	.57	.76	.85	.97	.99	1.02	1.06	1.07
Oct. 30	.40	.59	.69	.71	.75	.77	.82	.90	.90	.92	.93	.94
RHODE ISLAND												
Providence AP												
May 5	.25	.37	.45	.48	.51	.54	.54	.54	.55	.55	.55	.56
June 12	.22	.30	.31	.34	.39	.59	.74	.78	.88	.95	.99	1.00
June 21	.35	.60	.83	.84	.85	.85	.85	.85	.85	.85	.85	.85
July 6	.31	.45	.53	.56	.65	.94	1.04	1.08	1.11	1.18	1.22	1.22
Aug. 18	.23	.30	.35	.41	.56	.72	.96	1.21	1.55	1.55	1.55	1.60
Aug. 18	.27	.38	.43	.50	.60	.68	.75	.80	.81	.83	.84	.84
Aug. 19	.25	.40	.55	.85	1.23	1.68	1.83	1.88	2.05	2.20	2.36	2.48
Aug. 23	.23	.28	.31	.37	.60	.80	.86	.95	1.01	1.04	1.05	1.06
Aug. 27	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26
SOUTH CAROLINA												
Charleston												
Jan. 18	.24	.37	.45	.50	.58	.62	.66	.71	.78	.84	.94	1.04
Apr. 11	.27	.40	.52	.56	.68	.87	.98	1.22	1.25	1.37	1.42	1.47
May 18	.33	.55	.69	.88	1.18	1.32	1.50	1.68	1.74	1.76	1.79	1.79
June 23	.44	.77	1.06	1.19	1.32	1.37	1.40	1.43	1.45	1.46	1.47	1.47
July 10	.30	.56	.73	.79	.80	.81	.81	.81	.81	.81	.83	.83
July 24	(.27)	(.50)	(.58)	(.63)	.73	.73	.73	.73	.73	.73	.73	.73
July 31	.21	.34	.40	.41	.41	.41	.41	.41	.41	.41	.41	.41
Sept. 2	.31	.32	.32	.32	.32	.33	.33	.33	.33	.33	.33	.33
Sept. 3	.46	.76	.88	.92	1.01	1.06	1.08	1.10	1.10	1.12	1.12	1.13
Sept. 3	.22	.37	.45	.49	.54	.56	.57	.63	.66	.70	.73	.79
Sept. 4	.35	.65	.87	1.12	1.37	1.70	1.88	2.22	2.44	2.51	2.54	2.71
Sept. 5	.39	.65	.72	.79	.83	.84	.84	.84	.86	.87	.93	1.08
Sept. 6	.14	.25	.35	.38	.39	.41	.41	.41	.41	.41	.41	.41
Sept. 10	(.20)	(.30)	(.40)	(.40)	(.40)	(.40)	(.40)	(.40)	(.40)	(.40)	(.40)	(.69)
Sept. 13	.26	.48	.67	.83	1.08	1.27	1.38	1.56	1.72	1.88	2.10	2.34
Oct. 29	.15	.23	.24	.26	.51	.54	.56	.58	.58	.58	.58	.58
Columbia Airport												
Apr. 13	.26	.45	.60	.77	.95	1.06	1.10	1.14	1.15	1.16	1.17	1.18
May 23	.24	.32	.35	.45	.49	.52	.52	.53	.53	.53	.53	.53
May 29	.24	.35	.41	.41	.42	.42	.42	.42	.43	.43	.43	.43
June 11	.28	.30	.30	.30	.30	.56	.56	.56	.56	.56	.56	.56
SOUTH CAROLINA (Cont'd.)												
Columbia AP (Cont'd.)												
July 12	0.45	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
July 30	.27	.38	.44	.44	.45	.46	.48	.48	.48	.48	.48	.48
Aug. 16	.16	.32	.48	.55	.68	.68	.68	.74	.74	.74	1.00	1.00
Aug. 23	.26	.45	.55	.60	.80	1.10	1.15	1.24	1.40	1.75	1.86	1.88
Sept. 25	.20	.30	.36	.37	.37	.50	.50	.59	.59	.59	.61	.61
Oct. 1-2	.11	.16	.27	.35	.47	.65	.87	1.10	1.19	1.24	1.26	1.31
Florence AP												
Apr. 7	.35	.41	.43	.46	.58	.71	.76	.83	.88	.90	.95	.96
Apr. 13	.29	.30	.30	.30	.30	.34	.40	.40	.40	.50	.50	.51
Apr. 14	.15	.23	.37	.42	.50	.57	.58	.59	.62	.62	.64	.65
May 14	.28	.42	.62	.85	.87	.89	.92	.92	.92	.92	.92	.92
June 21	.15	.20	.28	.34	.40	.65	.69	.70	.70	.71	.75	.75
June 25	.35	.36	.36	.37	.37	.37	.37	.37	.40	.41	.41	.41
July 10	.30	.42	.53	.60	.80	.87	.91	.94	.94	.96	.96	.96
July 12	.28	.45	.70	.82	.84	.87	.89	.91	.91	.91	.91	.91
July 28	.28	.55	.65	.80	.91	.93	.97	.98	.98	.99	1.01	1.04
Aug. 3	.29	.40	.53	.63	.65	.65	.65	.65	.65	.65	.65	.67
Sept. 2	.25	.27	.33	.40	.50	.78	1.02	1.05	1.09	1.24	1.32	1.39
Sept. 2	.17	.34	.40	.43	.46	.50	.52	.55	.57	.58	.59	.60
Sept. 12	.18	.29	.37	.40	.44	.44	.45	.45	.45	.45	.45	.45
Sept. 25	.14	.25	.39	.49	.63	.76	.81	.92	.95	.96	.96	.96
Greenville AP												
Mar. 22	.27	.48	.54	.63	.77	.82	.82	.83	.89	1.04	1.07	1.07
Apr. 13	.28	.39	.50	.55	.57	.57	.57	.58	.58	.58	.61	.64
May 13	.32	.43	.54	.52	.53	.54	.55	.62	.62	.62	.68	.68
May 24	.18	.26	.39	.42	.55	.56	.56	.58	.58	.58	.58	.58
July 10	---	---	---	---	1.50	1.51	1.51	1.51	1.51	1.51	1.51	1.51
July 11	---	---	---	---	---	---	.80	.80	.80	.82	.82	.83
July 27	.29	.41	.65	.84	.87	.87	.87	.87	.87	.87	.87	.87
Sept. 25	.22	.37	.42	.45	.46	.47	.48	.81	.83	.83	.90	.98
Oct. 8	.11	.19	.25	.31	.43	.64	.81	.93	1.01	1.05	1.14	1.20
Spartanburg												
Apr. 6	.25	.30	.41	.46	.50	.51	.52	.53	.53	.53	.53	.85
Apr. 6	.20	.31	.36	.40	.53	.53	.65	.65	.65	.65	.65	.77
Apr. 13	.17	.28	.36	.42	.47	.48	.48	.63	.64	.64	.64	.64
Apr. 13	.22	.35	.46	.53	.56	.58	.61	.65	.68	.71	.75	.83
Apr. 24	.40	.64	.72	.77	.77	.77	.77	.77	1.09	1.13	1.13	1.13
May 13	.15	.30	.36	.38	.40	.42	.43	.43	.43	.44	.45	.45
May 21	.17	.34	.36	.37	.38	.44	.47	.51	.55	.56	.56	.58
June 10	.14	.22	.33	.42	.45	.45	.45	.45	.45	.45	.46	.47
July 11	.25	.41	.57	.63	.65	.66	.66	.73	.74	.75	.75	.75
July 11	.30	.56	.75	.85	.99	1.01	1.03	1.06	1.12	1.15	1.29	1.42
July 12	.21	.37	.52	.59	.72	.84	.87	.87	.87	.87	.87	.87
July 13	.28	.33	.40	.43	.48	.52	.59	.63	.64	.64	.65	.65
July 20	.20	.40	.50	.53	.80	.91	1.05	1.10	1.15	1.19	1.24	1.28
Aug. 7	---	---	.32	.45	.70	.89	.90	.92	.94	.99	1.02	1.04
Aug. 15	--	.18	- -	.43	.53	.78	1.21	1.29	1.38	1.61	1.63	1.64
Sept. 25	.16	.25	.35	.37	.50	.64	.95	1.01	1.09	1.38	1.42	1.43
SOUTH DAKOTA												
Huron Airport												
May 27	.20	.38	.42	.47	.64	.76	.81	.89	1.19	1.45	1.62	1.67
July 21	.20	.40	.55	.65	.90	1.15	1.30	1.42	1.42	1.42	1.42	1.42
Rapid City AP												
July 9	.50	.84	1.02	1.12	1.15	1.15	1.15	1.17	1.25	1.25	1.25	1.25
Aug. 19	.26	.27	.28	.28	.28	.29	.31	.36	.36	.38	.39	.39
Sept. 20	.45	.57	.71	.79	.83	.95	.99	1.01	1.10	1.17	1.27	1.34
Sioux Falls AP												
May 26	.30	.58	.64	.66	.69	.73	.76	.82	.88	.93	.97	1.00
July 22	.17	.33	.38	.43	.46	.46	.58	.60	.65	.65	.65	.65
July 28	.25	.47	.51	.67	.77	.83	.92	1.06	1.12	1.20	1.30	1.34
Aug. 5	.20	.26	.30	.54	.65	.65	.65	.65	.65	.65	.65	.65
TENNESSEE												
Bristol Airport												
Apr. 11	.25	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
July 6	.15	.30	.45	.60	.72	.82	.83	.83	.83	.83	.84	.84
July 7	.20	.25	.33	.40	.45	.49	.51	.54	.55	.55	.55	.55
July 12	.15	.25	.40	.50	.61	.70	.75	.77	.78	.80	.80	.82
July 23	.25	.45	.60	.72	.92	1.02	1.06	1.07	1.08	1.10	1.11	1.12
Chattanooga AP												
May 13	.28	.35	.38	.40	.43	.48	.53	.56	.58	.59	.60	.61
May 22	.21	.37	.47	.61	.75	.95	.97	.97	.97	.97	.97	.97
May 22	.16	.27	.32	.46	.65	.81	.99	1.01	1.02	1.03	1.03	1.03
June 23	.37	.55	.65	.75	.87	.93	.94	.94	.94	.95	.98	1.01
June 25	.22	.39	.53	.61	.64	.66	.66	.66	.66	.66	.66	.66
July 25	.38	.63	.80	.89	.95	.98	.98	.98	.98	.98	.98	.98
Knoxville Airport												
Apr. 21	.17	.30	.39	.40	.42	.45	.47	.49	.50	.56	.67	.68
Apr. 24	.18	.32	.43	.48	.52	.52	.52	.52	.52	.55	.57	.57
May 20	.18	.30	.35	.41	.54	.64	.68	.68	.68	.68	.68	.68
July 8	.31	.59	.85	.96	.96	.96	.96	.96	.96	.96	.96	.96
July 11	.26	.40	.43	.47	.65	.77	.83	.85	1.04	1.21	1.28	1.32
Oct. 7	.26	.35	.38	.40	.58	.60	.68	.85	1.05	1.14	1.17	1.35
Memphis Airport												
Feb. 1	.19	.28	.37	.43	.47	.47	.48	.48	.48	.48	.48	.48
Mar. 6	.17	.25	.32	.36	.59	.73	.84	1.00	1.25	1.40	1.48	1.57
Mar. 20	.33	.59	.74	.77	.83	1.10	1.24	1.29	1.34	1.40	1.48	1.53
Apr. 5	.50	.87	1.26	1.65	2.00	2.09	2.14	2.28	2.34	2.35	2.35	2.36
Apr. 20-21	.35	.53	.81	1.02	1.21	1.48	1.79	2.34	2.42	2.61	2.75	2.88
May 27	.33	.59	.75	.94	1.36	1.64	1.84	1.99	2.57	2.97	3.48	3.61
May 28	.30	.55	.58	.60	.60	.61	.61	.61	.61	.61	.61	.61
June 27	.16	.29	.38	.47	.60	.65	.67	.71	.74	.77	.78	.79
July 6	.28	.49	.68	.76	1.07	1.17	1.19	1.20	1.20	1.20	1.20	1.20
July 13	.30	.40	.43	.44	.45	.45	.45	.46	.46	.47	.47	.47
July 16	.30	.43	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
July 20	.28	.48	.54	.60	.64	.67	.69	.72	.72	.73	.75	.77
July 23	.23	.36	.42	.48	.64	.86	1.15	1.27	1.52	1.62	1.63	1.64
Aug. 7	.29	.51	.65	.74	.95	1.17	1.35	1.60	1.60	1.70	1.74	1.77
Aug. 22	.43	.68	.85	1.03	1.05	1.10	1.14	1.14	1.40	1.49	1.49	1.53
Nov. 14	.25	.39	.50	.54	.55	.57	.57	.57	.58	.63	.68	.68
Nov. 16	.23	.35	.45	.48	.48	.49	.49	.49	.49	.49	.49	.49
Nov. 23	.23	.34	.37	.39	.44	.47	.53	.59	.59	.59	.59	.59
Nashville AP												
Mar. 20	.30	.35	.42	.47	.52	.56	.62	.72	.82	.89	.98	1.00

( ) Data estimated

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
TENNESSEE (Cont'd.)												
Nashville AP (Cont'd.)												
Mar. 21	0.25	0.34	0.39	0.50	0.58	0.70	0.90	0.99	1.48	1.67	1.79	2.00
June 24	.24	.35	.44	.45	.49	.51	.53	.59	.65	.72	.91	.92
Aug. 4	.19	.29	.32	.38	.59	.78	.78	.78	.78	.78	.78	.78
Aug. 6	.45	.57	.60	.61	.71	.74	.74	.74	.74	.74	.74	.74
Aug. 22	.48	.49	.49	.54	.62	.66	.66	.66	.66	.66	.66	.66
Sept. 28	.23	.26	.31	.40	.44	.61	.71	.71	.71	.71	.71	.71
Sept. 28	.24	.34	.51	.57	.59	.69	.70	.70	.70	.70	.71	.71
Nov. 14	.25	.38	.41	.43	.46	.57	.61	.62	.83	.98	1.00	1.05
TEXAS												
Abilene Airport												
Apr. 22	.27	.35	.50	.67	.82	.86	.99	1.00	1.00	1.00	1.00	1.00
May 16	.38	.62	.79	.84	.88	.93	.95	.95	.98	1.00	1.03	1.08
May 18	.27	.35	.37	.38	.39	.57	.62	.63	.63	.63	.63	.63
May 18	.43	.73	.97	1.14	1.27	1.33	1.34	1.34	1.34	1.34	1.34	1.34
June 8	.45	.75	1.15	1.35	1.48	1.60	1.68	1.72	1.79	1.82	1.86	2.00
June 14	.50	.90	1.04	1.08	1.10	1.23	1.34	1.40	1.45	1.54	1.55	1.55
Aug. 4	.26	.40	.57	.70	.86	1.07	1.14	1.14	1.14	1.14	1.14	1.14
Sept. 24	.20	.32	.43	.48	.67	.80	1.15	1.36	1.70	1.96	2.03	2.09
Oct. 2	.26	.42	.55	.57	.59	.61	.65	.65	.65	.65	.65	.65
Amarillo Airport												
Jan. 4	.26	.26	.26	.26	.26	.26	.26	.26	.29	.33	.40	.46
July 22	.33	.48	.63	.78	.98	1.02	1.03	1.37	1.39	1.41	1.41	1.42
July 28	.18	.30	.45	.55	.60	.61	.61	.61	.61	.61	.61	.65
Aug. 5	.20	.33	.38	.50	.57	.76	.82	.84	.84	.84	.84	.84
Sept. 20	.45	.73	.90	.92	.92	1.07	1.07	1.07	1.07	1.07	1.08	1.08
Sept. 24	.30	.32	.34	.38	.40	.74	.84	1.10	1.15	1.15	1.15	1.15
Austin Airport												
Feb. 4	.31	.37	.43	.47	.56	.64	.64	.66	.72	.78	.89	1.01
May 18	.38	.65	.79	.86	.88	.91	.91	.91	.91	.92	.92	.92
May 19	.30	.55	.70	.84	1.06	1.08	1.11	1.13	1.14	1.15	1.15	1.16
June 5	.20	.35	.44	.46	.50	.53	.67	.72	.87	.87	.87	.87
July 13	.16	.31	.40	.42	.60	.60	.60	.60	.63	.70	.70	.70
July 14	.19	.37	.47	.56	.68	.91	.97	1.01	1.02	1.03	1.04	1.04
Aug. 11	.23	.39	.57	.73	.93	1.09	1.11	1.12	1.13	1.14	1.17	1.19
Sept. 11	.18	.30	.41	.49	.56	.58	.60	.61	.63	.67	.94	.96
Brownsville AP												
July 9	.33	.60	.70	.72	.73	.74	.74	.85	.86	.86	.86	.93
Sept. 4	.28	.46	.51	.51	.51	.51	.51	.51	.51	.51	.51	.57
Sept. 5	.32	.63	.78	.88	.91	.96	.98	1.00	1.01	1.06	1.43	1.45
Corpus Christi												
May 11	.41	.75	1.14	1.36	1.53	1.55	1.70	1.82	1.82	1.82	1.82	1.83
Sept. 6	.14	.24	.37	.44	.64	.85	.97	1.38	1.75	2.18	2.65	3.09
Sept. 6	.22	.38	.51	.68	1.00	1.22	1.43	1.85	2.07	----	- -	----
Sept. 11	.18	.30	.33	.35	.38	.41	.71	.71	.71	.71	.71	.77
Sept. 20	.22	.35	.52	.66	.89	1.18	1.32	1.62	1.73	1.73	1.74	1.75
Dallas Airport												
May 20	.18	.24	.38	.39	.44	.53	.55	.57	.58	.58	.58	.58
June 5	.32	.50	.62	.80	1.08	1.18	1.23	1.26	1.27	1.27	1.27	1.27
June 18	.15	.28	.36	.43	.56	.65	.71	.82	.92	1.00	1.11	1.26
Oct. 6	.22	.43	.56	.59	.65	.75	.78	.78	.78	.78	.79	.79
Del Rio Airport												
Mar. 19	.35	.59	.64	.65	.67	.70	.70	.70	.70	.70	.70	.70
May 15	.39	.62	.73	.81	.89	.93	.94	.94	.94	.94	.94	.95
May 11	.43	.70	.79	.86	1.01	1.04	1.05	1.06	1.06	1.06	1.06	1.06
July 1	.24	.40	.47	.51	.54	.54	.55	.55	.56	.56	.56	.56
El Paso Airport						None						
Fort Worth AP												
Mar. 20	.30	.45	.64	.83	.95	.95	1.02	1.02	1.02	1.09	1.26	1.26
Apr. 12	.28	.30	.32	.33	.34	.34	.35	.36	.36	.37	.39	.43
May 15	.31	.49	.64	.71	.75	.78	.79	.79	.79	.79	.79	.79
May 16	.14	.24	.36	.48	.70	.88	.99	1.03	1.11	1.16	1.26	1.27
May 19	.18	.30	.42	.50	.63	.82	1.14	1.32	1.45	1.58	1.74	1.97
June 4	.33	.52	.80	.98	1.26	1.38	1.55	1.59	1.63	1.65	1.65	1.65
June 16	.20	.29	.39	.47	.58	.64	.65	.66	.66	.66	.67	.67
June 18	.15	.21	.35	.42	.57	.62	.66	.70	.75	.81	.91	1.02
Aug. 11	.38	.49	.54	.54	.55	.55	.55	.55	.55	.55	.55	.55
Sept. 15	.24	.30	.40	.45	.64	.90	.97	1.03	1.04	1.05	1.05	1.05
Galveston												
Jan. 27	.12	.24	.35	.43	.45	.45	.45	.45	.45	.45	.45	.45
Feb. 4	.11	.21	.32	.42	.63	.91	1.17	1.50	1.67	1.67	1.69	1.69
Apr. 1	.44	.79	1.03	1.14	1.27	1.33	1.38	1.47	1.62	1.82	1.97	2.00
May 16	.24	.33	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36
May 18	.47	.79	.98	1.33	1.97	2.28	2.38	2.47	2.55	2.59	2.61	2.62
July 12	.19	.32	.49	.64	.74	.75	.75	.75	.76	.79	.82	.84
July 17	.22	.31	.35	.35	.35	.35	.49	.59	.59	.59	.59	.59
July 19	.25	.39	.48	.51	.67	.79	.80	.80	.80	.80	.80	.80
Aug. 2	.21	.31	.42	.61	.74	.75	.75	.77	.77	.77	.77	.77
Aug. 10	.25	.50	.65	.76	.89	1.03	1.08	1.10	1.20	1.25	1.25	1.25
Aug. 15	.25	.47	.66	.83	.97	1.03	1.03	1.04	1.04	1.05	1.07	1.07
Oct. 1	.23	.30	.34	.35	.36	.36	.36	.36	.36	.36	.36	.36
Oct. 27	.29	.32	.54	.60	.60	.60	.60	.60	.60	.60	.60	.60
Houston												
Jan. 18	.60	1.02	1.16	1.26	1.59	1.70	1.83	1.96	2.00	2.01	2.01	2.01
Feb. 4	.19	.35	.48	.60	.76	1.06	1.14	1.40	1.58	1.97	2.03	2.07
Feb. 5	.21	.33	.36	.40	.42	.45	.50	.54	.64	.69	.71	.71
May 11	.18	.27	.35	.40	.52	.61	.68	.73	.75	.78	.79	.80
May 16	.27	.43	.56	.61	.79	.88	.88	.88	.88	.88	.88	.88
July 9	.26	.52	.70	.79	.89	.89	.90	.90	.90	.90	.90	.90
July 11	.49	.98	1.32	1.51	1.66	1.68	1.68	1.68	1.68	1.69	1.69	1.70
July 13	.40	.61	.79	1.16	1.55	1.75	1.81	1.85	1.88	1.91	1.93	1.94
July 14	.18	.32	.44	.49	.53	.54	.55	.61	.62	.65	.70	.71
July 19	.27	.45	.63	.69	.74	.74	.74	.78	.79	.79	.80	.83
July 22	.32	.56	.81	.98	1.33	1.71	1.83	1.94	2.12	2.15	2.17	2.18
July 23	.28	.53	.66	.70	.71	.72	.72	.72	.72	.72	.75	.75
Aug. 2	.20	.39	.51	.58	.69	.74	.75	.76	.76	.76	.76	.76
Aug. 3	.19	.27	.37	.38	.40	.40	.40	.40	.40	.40	.40	.40
Aug. 9	.32	.51	.53	.55	.60	.62	.63	.66	.70	.72	.74	.75
Aug. 13	.35	.62	.85	.99	1.32	1.71	1.79	1.80	1.80	1.80	1.80	1.80
Aug. 19	.36	.57	.71	.83	.93	.96	.97	.97	.97	.97	.97	.97
Aug. 27	.16	.26	.32	.35	.51	.61	.62	.62	.62	.62	.62	.62
Laredo Airport												
May 12	.25	.45	.58	.60	.63	.63	.63	.63	.63	.63	.63	.63

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
TEXAS (Cont'd.)												
Midland Airport												
May 9	0.18	0.25	0.30	0.43	0.53	0.54	0.54	0.55	0.55	0.55	0.55	0.55
June 1	.24	.30	.45	.62	.90	.93	.95	.97	.97	.97	.97	.97
Aug. 21	.20	.32	.32	.32	.32	.32	.32	.36	.44	.46	.46	.46
Port Arthur AP												
Jan. 9	.11	.20	.28	.36	.51	.63	.72	.84	.97	1.07	1.17	1.22
Feb. 4	.29	.39	.46	.48	.65	.75	.79	.83	.89	.90	.91	.91
Feb 5	.18	.34	.44	.50	.56	.67	.88	.99	1.12	1.25	1.29	1.32
Apr. 1	.22	.29	.35	.39	.46	.52	.64	.73	.88	.92	1.00	1.04
May 12	.14	.22	.32	.41	.57	.63	.66	.70	.77	.82	.83	.83
June 8	.24	.43	.65	.79	.94	.98	.98	.98	.99	.99	1.00	1.01
June 9	.38	.55	.58	.60	.70	.76	.76	.76	.76	.76	.77	.97
June 14	.15	.27	.37	.40	.44	.50	.53	.54	.55	.55	.55	.55
July 25	.34	.56	.62	.64	.66	.67	.67	.67	.67	.67	.67	.67
July 27	.16	.26	.38	.47	.55	.68	.71	.71	.72	.72	.72	.73
Aug. 2	.41	76	1.01	1.05	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Aug. 3	.32	.46	.51	.57	.61	.67	.94	1.22	1.29	1.33	1.58	1.83
Aug. 3	.24	.34	.38	.40	.41	.47	.50	.56	.62	.67	.69	.72
Aug. 28	.24	.36	.48	.59	.71	.98	1.17	1.38	1.63	1.80	1.89	2.03
Aug. 29	.35	.62	.88	.98	1.10	1.20	1.32	1.59	1.96	1.97	2.05	2.07
Aug. 31	.21	.37	.50	.64	.82	.93	1.02	1.08	1.14	1.22	1.31	1.34
Sept. 1	.26	.42	.58	.68	.75	.77	.77	.78	.78	.78	.78	.78
Sept. 11	.26	.46	.59	.67	.79	.95	1.03	1.26	1.30	1.33	1.38	1.41
Oct. 1	.60	.87	.99	1.00	1.01	1.20	1.68	1.73	1.81	1.83	1.85	1.85
Nov. 24	.25	.44	.55	.64	.86	1.18	1.34	1.43	1.46	1.46	1.47	1.48
Dec. 1	.21	.35	.51	.61	.79	.94	1.05	1.12	1.22	1.28	1.41	1.53
Dec. 4	.39	.68	.86	.91	----	----	----	1.82	1.85	1.86	1.86	1.87
San Angelo												
Feb. 4	.22	.38	.45	.46	.53	.55	.57	.59	.61	.61	.61	.61
May 18	.20	.30	.48	.64	.80	1.02	1.20	1.40	1.44	1.46	1.60	1.94
June 28	.32	.46	.70	1.00	1.22	1.46	1.56	1.76	2.18	2.24	2.25	2.25
July 16	.30	.47	.75	.98	1.37	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Aug. 11	.36	.39	.40	.40	.41	.41	.41	.41	.41	.41	.41	.41
San Antonio AP												
Mar. 20	.70	1.08	1.24	1.26	1.27	1.28	1.28	1.28	1.28	1.28	1.28	1.28
May 11	.52	.84	1.03	1.26	1.42	1.45	1.45	1.45	1.45	1.49	1.53	1.53
May 17	.34	.54	.63	.69	.81	.91	.92	.93	.93	.93	.94	.96
May 19	.24	.42	.59	.69	.83	.87	.90	.92	.92	.93	.93	.94
June 20	.31	.58	.74	.83	1.06	1.33	1.36	1.40	1.41	1.43	1.46	1.50
July 14	.23	.41	.53	.65	.70	.81	.82	.83	.83	.83	.83	.83
Victoria												
Jan. 9	.17	.30	.43	.43	.43	.43	.44	.44	.44	.44	.44	.44
Mar. 31	.25	.28	.31	.42	.50	.55	.58	.59	.59	.60	.60	.63
May 19	.25	.43	.50	.53	.70	.73	.75	.75	.75	.75	.75	.87
July 28	.32	.60	.78	.91	1.11	1.18	1.19	1.19	1.19	1.19	1.19	1.20
Aug. 13	.35	.60	.92	1.15	1.52	1.69	1.71	1.72	1.72	1.72	1.72	1.72
Aug. 19	.23	.33	.45	.55	.59	.60	.61	.62	.63	.63	.64	.64
Aug. 30	.20	.33	.45	.51	.57	.58	.58	.58	.58	.58	.58	.58
Aug. 31	.20	.35	.45	.55	.65	.75	.77	.80	.82	.82	.82	.82
Sept. 1	.20	.32	.38	.47	.52	.56	.57	.59	.59	.59	.59	.59
Oct. 3	.33	.34	.34	.34	.46	.64	.92	.93	.93	.93	.93	.93
Nov. 6	.65	.80	.83	.85	.85	.85	.85	.85	.85	.85	.85	.85
Waco Airport												
Feb. 19	.40	.70	.85	.93	.99	1.02	1.12	1.25	1.32	1.35	1.42	1.42
Mar. 20	.45	.55	.65	.65	.85	1.30	1.50	1.70	1.72	1.74	1.79	1.79
Mar. 21	.20	.33	.48	.63	.68	.70	.70	.81	.81	.81	.81	.81
Mar. 31	.25	.30	.33	.45	.49	.49	.49	.49	.49	.49	.49	.49
May 6	.30	.55	.64	.65	.65	.65	.65	.65	.65	.65	.65	.65
May 16	.20	.35	.45	.50	.70	.75	.78	.78	.78	.78	.78	.78
May 16	.20	.30	.40	.45	.50	.54	.58	.63	.70	.79	.79	.79
May 18	.20	.35	.48	.56	.60	.70	.70	.80	.80	.80	.80	.80
May 18	.20	.40	.55	.70	.78	.81	.81	.81	.81	.81	.81	.88
May 23	.18	.33	.48	.50	.55	.62	.62	.62	.62	.62	.62	.62
May 26	.20	.30	.38	.49	.60	.73	.75	.75	.75	.75	.75	.75
June 8	.15	.25	.36	.42	.52	.56	.57	.58	.60	.68	.70	.74
June 15	.20	.30	.44	.49	.51	.53	.55	.59	.59	.59	.59	.59
Aug. 20	.25	.40	.50	.55	.56	.57	.65	.65	.70	.75	.75	.79
Oct. 3	.30	.55	.75	.85	.90	.93	.93	.93	.93	1.25	1.45	1.45
Oct. 6	.18	.34	.42	.45	.48	.82	.93	.93	.93	.93	.93	.93
Wichita Falls												
Apr. 26	.25	.40	.50	.65	1.05	1.09	1.09	1.09	1.09	1.09	1.09	1.13
May 16	.20	.30	.37	.41	.59	.62	.70	.72	.73	.75	.81	.85
May 18	.40	.75	1.05	1.30	1.43	1.50	1.57	1.57	1.57	1.57	1.60	2.15
June 3	.25	.48	.71	.81	.85	.87	.89	.90	.90	.90	.90	.90
June 8	.31	.60	.73	.82	.95	1.01	1.03	1.12	1.15	1.17	1.19	1.20
June 18	.30	.55	.75	1.05	1.60	1.65	1.66	1.66	1.67	1.67	1.67	1.67
June 19	.23	.37	.43	.48	.56	.62	.67	.75	.81	.87	.96	.99
July 16	.25	.50	.75	.95	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Aug. 30	.20	.40	.51	.52	.53	.54	.54	.55	.62	.68	.78	.83
Sept. 25	.17	.32	.47	.55	.60	.70	.85	.97	1.12	1.19	1.25	1.39
Oct. 2	.25	.30	.43	.45	.46	.48	.48	.50	.52	.56	.65	.65
UTAH												
Milford Airport												
July 24	.15	.30	.35	.43	.45	.46	.46	.51	.52	.52	.52	.52
Salt Lake City AP						None						
VERMONT												
Burlington Airport												
May 23	.58	.81	1.04	1.26	1.91	2.12	2.16	2.18	2.20	2.23	2.25	2.26
June 24	.33	.54	.65	.67	.67	.67	.68	.71	.72	.72	.72	.72
July 2	.26	.43	.51	.60	.79	.83	.85	.86	.89	.90	.90	.90
July 5	.21	.32	.49	.58	.63	.82	.87	.89	.89	.89	.89	.89
Aug. 13	.16	.23	.35	.42	.60	.77	.79	.86	.90	.93	.99	1.04
Aug. 17	.33	.50	.61	.75	.89	.96	.96	1.20	1.71	1.83	2.04	2.18
VIRGINIA												
Norfolk Airport												
May 30	.37	.45	.49	.49	.49	.49	.49	.50	.51	.51	.51	.51
Aug. 12	.20	.39	.51	.63	.76	.95	1.01	1.08	1.18	1.28	1.42	1.51
Aug. 23	.28	.48	.73	.88	1.13	1.49	1.61	1.63	1.65	1.69	1.76	1.82
Sept. 3	.20	.33	.41	.44	.45	.46	.47	.49	.51	.54	.62	.75
Sept. 3	.19	.37	.53	.68	.95	1.27	1.58	1.82	1.87	1.93	2.05	2.10
Sept. 7	.29	.46	.61	.66	.67	.69	.71	.80	.83	.84	.84	.85
Lynchburg Airport												
June 7	.23	.34	.39	.41	.42	.43	.43	.43	.43	.43	.43	.43

Table 8—Continued

EXCESSIVE SHORT DURATION RAINFALL

YEAR 1955

Station and date	Maximum precipitation in inches (5 to 180 minutes) 5	10	15	20	30	45	60	80	100	120	150	180
VIRGINIA (Cont'd.)												
Lynchburg AP (Cont'd.)												
June 7	0.35	0.43	0.48	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
July 23	.33	.57	.67	.83	.98	1.06	1.07	1.07	1.07	1.07	1.07	1.07
July 24	.26	.38	.40	.40	.42	.44	.45	.45	.45	.45	.45	.45
July 31	.25	.29	.29	.31	.32	.32	.32	.32	.32	.32	.32	.32
Aug. 9	.18	.29	.42	.49	.56	.63	.64	.64	.64	.64	.64	.65
Aug. 22	.14	.24	.36	.40	.40	.40	.40	.42	.42	.42	.42	.42
Richmond Airport												
June 7	.24	.29	.32	.46	.59	.69	.69	.69	.69	.69	.69	.69
June 25	.21	.27	.43	.51	.52	.52	.52	.52	.52	.52	.52	.52
July 8-9	.35	.56	.36	1.11	1.55	2.10	2.45	2.80	2.96	3.24	3.44	3.45
July 12	.18	.36	.49	.65	.75	.78	.78	.78	.78	.78	.78	.78
July 23	.26	.50	.57	.59	.60	.60	.63	.64	.64	.64	.64	.64
Aug. 13	.22	.40	.61	.78	1.01	1.17	1.25	1.34	1.64	1.84	2.37	2.80
Aug. 16	.25	.41	.43	.43	.43	.56	.57	.57	.57	.57	.87	.87
Roanoke Airport												
Apr. 17	.28	.46	.50	.50	.50	.50	.50	.52	.52	.52	.52	.52
Apr. 24	.20	.25	.35	.40	.40	.40	.40	.40	.40	.40	.42	.44
May 22	.19	.34	.46	.56	.60	.65	.68	.69	.69	.69	.69	.69
May 24	.25	.34	.38	.42	.42	.42	.42	.42	.42	.42	.42	.43
July 10	.30	.43	.56	.66	.78	.81	.82	.83	.86	.86	.86	.86
Aug. 22	.22	.35	.41	.44	.45	.45	.45	.45	.45	.45	.45	.45
WASHINGTON												
Seattle						None						
Spokane Airport						None						
Tatoosh Island												
Oct. 9	.37	.52	.67	.72	.81	.86	.92	1.00	1.13	1.16	1.17	1.17
Walla Walla						None						
Yakima						None						
WEST VIRGINIA												
Charleston AP												
Mar. 4	.28	.40	.43	.44	.44	.51	.54	.54	.63	.70	.81	.89
May 24	.32	.48	.63	.68	.71	.71	.85	1.18	1.23	1.25	1.25	1.25
July 5	.18	.35	.43	.55	.61	.72	.85	.93	1.09	1.17	1.37	1.45
July 9	.40	.62	.65	.70	.78	.81	.84	.91	.92	.92	.92	.92
July 24	.32	.57	.68	.76	.85	1.17	1.30	1.34	1.34	1.34	1.34	1.34
Oct. 7	.15	.30	.35	.40	.54	.78	.90	.97	1.00	1.03	1.08	1.12
Huntington												
Mar. 4	.25	.30	.31	.31	.31	.31	.31	.31	.33	.33	.33	.33
Mar. 5	.30	.45	.54	.62	.62	.63	.65	.81	.82	.85	.92	1.12
May 23	.40	.53	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54
June 7	.27	.31	.32	.32	.32	.32	.56	.58	.58	.58	.58	.58
June 22	.17	.24	.37	.39	.40	.41	.41	.41	.41	.41	.41	.41
July 6	.18	.27	.33	.38	.51	.66	.71	.87	.89	.90	.90	.90
July 6	.25	.35	.40	.50	.55	.64	.65	.65	.65	.65	.65	.65
July 9	.25	.40	.50	.55	.58	.75	.84	.88	.94	1.00	1.10	1.21
July 27	.35	.45	.68	.88	.96	1.00	1.01	1.01	1.01	1.01	1.01	1.01
Aug. 11	.17	.30	.37	.45	.54	.64	.67	.68	.70	.71	.80	.84
Aug. 21	.28	.48	.66	.70	.74	.75	.75	.80	.80	.80	.80	.80
Oct. 7	.25	.45	.50	.52	.56	.62	.65	.68	.73	.75	.78	.79
Parkersburg												
Mar. 11	.20	.30	.35	.36	.40	.45	.51	.55	.59	.61	.65	.65
Apr. 14	.36	.48	.59	.66	.69	.69	.69	.69	.69	.69	.70	.74
June 6	.26	.39	.45	.49	.62	.96	1.09	1.24	1.28	1.31	1.33	1.33
June 20	.37	.47	.52	.55	.56	.56	.62	.63	.63	.63	.63	.65
July 4	.30	.34	.35	.41	.42	.42	.42	.42	.42	.42	.42	.42
July 24	.57	.76	.82	.83	.83	.87	.93	1.00	1.00	1.00	1.00	1.00
Aug. 7	.50	.85	.90	1.03	1.28	1.60	1.65	1.74	1.74	1.74	1.74	1.74
WISCONSIN												
Green Bay Airport												
June 4	.29	.31	.31	.31	.31	.31	.52	.52	.52	.52	.52	.52
June 6	.20	.35	.46	.53	.66	.70	.74	.74	.74	.74	.75	.76
July 2	.30	.40	.43	.45	.46	.50	.51	.51	.51	.51	.51	.51
July 15	.23	.32	.36	.42	.47	.50	.51	.52	.54	.56	.57	.58
July 28	.18	.33	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
July 30	.28	.47	.61	.68	.70	.73	.86	.97	.97	.97	.97	.97
La Crosse Airport												
May 22	.20	.31	.40	.41	.41	.41	.41	.41	.41	.41	.41	.41
June 5	.29	.38	.43	.44	.45	.46	.47	.49	.51	.51	.54	.54
July 2	.24	.39	.52	.64	.76	.82	.85	.91	.95	.99	1.05	1.05
July 8	.67	.92	1.17	1.27	1.39	1.54	1.82	2.15	2.27	2.37	2.42	2.45
Madison Airport												
May 23	.25	.32	.32	.33	.33	.33	.33	.33	.33	.33	.33	.33
July 23	.22	.40	.48	.53	.67	.68	.68	.70	.73	.73	.73	.73
July 31	.19	.31	.43	.46	.63	.71	.73	.74	.75	.75	.79	.83
Aug. 6	.27	.47	.52	.55	.55	.55	.55	.55	.55	.55	.55	.55
Milwaukee Airport												
May 24	.30	.57	.69	.87	.90	.94	1.15	1.37	1.47	1.55	1.61	1.69
July 8	.30	.42	.52	.60	.64	.65	.67	.68	.69	.69	.69	.69
Aug. 16	.26	.44	.60	.72	1.12	1.48	1.62	1.63	1.63	1.63	1.63	1.63
Aug. 29	.28	.33	.37	.44	.56	.63	.67	.71	.74	.76	.94	1.06
WYOMING												
Casper						None						
Cheyenne												
June 14	.28	.43	.51	.54	.64	.82	.92	1.07	1.32	1.54	1.72	1.84
June 21	.33	.52	.59	.63	.65	.66	.66	.66	.67	.67	.67	.67
July 5	.19	.33	.36	.38	.40	.40	.40	.40	.40	.40	.40	.40
Lander Airport						None						
Sheridan Airport												
June 14	.25	.27	.28	.29	.31	.32	.32	.32	.32	.32	.32	.32
July 11	.28	.29	.29	.30	.30	.32	.34	.34	.34	.34	.34	.34
July 25	.27	.47	.58	.59	.59	.59	.59	.59	.59	.59	.59	.59
ALASKA												
Anchorage Airport						None						
Annette Airport												
Oct. 9	0.14	0.26	0.33	0.40	0.59	0.59	0.60	0.71	0.81	0.90	0.96	1.05
Fairbanks AP*												
Juneau Airport						None						
Yakutat Airport						None						
PUERTO RICO												
San Juan Airport												
Jan. 8	.26	.37	.43	.45	.49	.68	.74	.83	.92	.94	.98	1.08
Apr. 20	.26	.37	.43	.46	.50	.52	.52	.55	.56	.56	.56	.56
May 3	.15	.20	.33	.48	.57	.65	.72	1.02	1.10	1.16	1.24	1.25
May 4	.28	.44	.72	.77	.96	1.31	1.31	1.31	1.36	1.36	1.36	1.36
May 8	.22	.40	.48	.56	.64	.75	.84	.87	.89	.89	.94	.97
May 9	.15	.30	.43	.46	.52	.53	.55	.57	.57	.63	.67	.67
May 24	.18	.30	.40	.50	.62	.84	.86	.86	.86	.86	.86	.86
May 29	.22	.30	.40	.50	.56	.75	.75	.76	.76	.77	.77	.77
May 29	.25	.48	.62	.73	.82	.82	.82	.82	.83	.83	.84	.85
May 30	.20	.33	.35	.38	.38	.38	.38	.38	.38	.38	.38	.38
June 28	.18	.32	.34	.42	.60	.60	.62	.62	.62	.62	.62	.62
July 12	.27	.48	.55	.58	.67	.69	.70	.70	.70	.70	.70	.70
Aug. 2	.25	.35	.36	.39	.40	.41	.43	.50	.51	.52	.52	.52
Aug. 3	.23	.43	.63	.80	1.02	1.34	1.58	1.76	1.85	1.88	1.88	1.88
Aug. 6	.27	.44	.50	.53	.56	.93	1.19	1.37	1.59	1.63	2.05	3.01
Sept. 1	.24	.38	.47	.52	.70	.79	.81	.81	.81	.81	.81	.81
Sept. 5	.31	.44	.49	.61	.77	.83	.83	.83	.83	.83	.83	.83
Sept. 29	.30	.55	.72	.86	1.20	1.35	1.40	1.41	1.49	1.68	1.70	1.74
Oct. 28	.24	.27	.36	.41	.47	.51	.52	.54	.55	.56	.56	.85
Nov. 3	.26	.42	.62	.74	.84	.84	.84	.84	.84	.84	.84	.84
Dec. 30	.18	.31	.39	.43	.48	.67	.79	.94	.97	1.36	1.49	1.52
San Juan												
Feb. 17	.26	.34	.35	.35	.35	.38	.38	.41	.41	.44	.44	.44
May 4	.30	.45	.52	.75	1.25	1.39	1.41	1.41	1.42	1.43	1.45	1.46
July 4	.30	.45	.60	.63	.65	.75	.75	.76	.77	.77	.80	.80
Nov. 1	.27	.50	.51	.52	.52	.52	.52	.52	.57	.61	.78	.78
Dec. 4	.26	.38	.50	.60	.72	.82	.85	.85	.85	.85	.85	.85
Dec. 14	.30	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
HAWAII												
Hilo Airport												
Jan. 7	.28	.37	.42	.49	.52	.66	.71	.80	.80	1.01	1.15	1.42
Jan. 21	.27	.39	.49	.53	.63	.82	.98	1.13	1.20	1.36	1.71	1.90
Feb. 19	.17	.25	.35	.42	.55	.64	.72	.83	.93	1.09	1.31	1.49
Feb. 24	.25	.36	.45	.65	.86	1.03	1.22	1.25	1.34	1,45	1.63	1.85
Mar. 10	.12	.21	.25	.34	.48	.62	.80	1.00	1.12	1.19	1.26	1.31
Mar. 31	.25	.33	.33	.33	.33	.34	.42	.43	.43	.51	.60	.60
Apr. 28	.15	.29	.38	.43	.55	.62	.63	.63	.63	.63	.63	.63
Apr. 29	.20	.32	.42	.47	.52	.58	.66	.88	1.01	1.05	1.25	1.57
July 24	.13	.24	.31	.40	.50	.65	.80	.87	.88	.88	.90	.90
July 25	.16	.31	.34	.35	.35	.36	.42	.44	.48	.50	.58	.60
Aug. 3	.16	.26	.40	.43	.56	.70	.88	.90	.93	.95	1.33	1.48
Nov. 19	.18	.26	.35	.43	.56	.82	1.04	1.16	1.55	1.72	1.97	2.27
Nov. 24	.16	.25	.36	.43	.53	.62	.67	.75	.75	.84	1.04	1.24
Dec. 30	.19	.35	.48	.54	.63	.67	.69	.76	.79	.82	1.01	1.09
Honolulu Airport												
Jan. 20	.27	.27	.28	.28	.28	.28	.29	.30	.33	.37	.39	.40
Jan. 21	.20	.36	.54	.66	.80	.96	1.06	1.12	1.20	1.47	1.66	1.83
Feb. 22	.20	.32	.44	.58	.72	.85	1.03	1.33	1.44	1.53	1.62	1.70
Feb. 23	.22	.30	.34	.40	.45	.65	.81	.84	.95	1.03	1.26	1.56
Feb. 23	.16	.30	.41	.48	.53	.59	.70	.78	.81	.87	.92	1.47
Feb. 23	.47	.63	.67	.70	.77	1.14	1.19	1.28	1.31	1.70	1.95	1.98
Feb. 23	.20	.33	.41	.50	.56	.61	.66	.71	.78	1.16	1.95	1.98
Feb. 24	.22	.32	.34	.35	.39	.43	.52	.61	.70	.75	.82	1.11
Feb. 25	.25	.47	.56	.70	.97	1.23	1.30	1.38	1.42	1.44	1.48	1.48
Mar. 22	.18	.27	.30	.39	.47	.68	.80	.86	.93	1.02	----	----
Mar. 22	.20	.38	.40	.44	.57	.68	.77	.87	.96	1.02	1.12	1.48
Dec. 19	.19	.30	.40	.50	.67	.75	.92	1.24	1.35	1.43	1.60	1.72
Dec. 19	.17	.33	.44	.51	.71	.90	1.14	1.42	1.82	2.12	2.52	2.74
Dec. 20	.22	.46	.55	.60	.70	.89	1.13	1.19	1.35	1.53	1.66	1.86
Lihue Airport												
Jan. 21	.26	.42	.52	.57	.65	.75	.81	.86	1.00	1.14	1.33	1.42
Feb. 6	.12	.21	.28	.38	.50	.56	.62	.65	.70	.75	.88	1.01
Feb. 25	.34	.56	.76	.81	.85	.88	.93	.97	.98	.98	.98	.98
Mar. 22	.32	.54	.71	.86	.98	1.08	1.27	1.49	1.50	1.55	1.60	1.67
Aug. 3	.16	.29	.37	.40	.42	.42	.42	.42	.42	.42	.45	.47
Sept. 20	.21	.34	.42	.44	.46	.72	.80	.81	.81	.84	.85	.85
Oct. 30	.30	.47	.58	.65	.75	1.09	1.40	1.54	1.72	1.84	1.91	1.91
Oct. 30	.13	.22	.30	.38	.54	.68	.74	.75	.75	.75	.75	.76
Nov. 8	.50	.86	1.09	1.23	1.45	1.67	1.93	2.04	2.19	2.24	2.29	2.36
Nov. 9	.39	.56	.65	.76	.91	1.14	1.40	2.30	2.54	2.78	3.29	4.54
Nov. 11	.49	.71	.94	1.30	1.47	1.51	1.78	2.13	2.72	2.76	2.76	2.80
Nov. 12	.19	.29	.36	.41	.46	.58	.64	.74	.80	.88	.91	.98
Dec. 19	.48	.73	.80	.89	1.09	1.21	1.24	1.32	1.45	1.50	1.64	1.83
Dec. 31	.56	1.09	1.48	1.68	1.91	2.62	2.95	3.10	3.17	3.26	3.54	3.60
PACIFIC AREA												
Canton Island												
Jan. 17	.20	.28	.43	.58	.73	.83	.84	.98	.99	.99	1.00	1.05
Jan. 17	.25	.30	.48	.57	.75	.87	.90	.90	1.10	1.16	1.47	1.79
Mar. 23	.21	.35	.55	.65	.77	.82	.95	1.16	1.19	1.20	1.22	1.22
July 10	.27	.37	.44	.50	.67	1.10	1.28	1.73	1.74	1.75	1.75	1.75
Wake Island AP												
Feb. 19	.36	.59	.75	.81	.85	.86	.86	.86	.86	1.08	1.09	1.09
Aug. 17	.26	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
Sept. 22	.42	.54	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55
Sept. 28	----	----	----	----	----	.94	.95	.95	.95	1.00	1.04	1.06

*Rain gauge operation from October - No excessive rains.

SUNSHINE, AMOUNT AND PERCENT

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
ALABAMA																										
Birmingham	140	44	108	35	188	51	249	64	258	60	281	65	201	46	273	66	225	61	251	71	201	64	133	43	2508	56
Montgomery	155	48	126	41	218	59	234	60	301	70	345	81	266	61	325	79	242	65	258	73	182	58	127	41	2779	63
ARIZONA																										
Phoenix	220	69	286	93	360	97	375	96	412	96	424	99	389	89	357	86	368	99	328	93	283	90	277	90	4079	92
Prescott	199	63	241	79	331	89	360	92	400	92	409	94	365	83	352	61	349	94	314	90	250	80	216	71	3786	83
Tucson	245	77	279	90	326	88	360	93	378	88	415	97	318	73	298	72	360	97	337	95	273	86	276	88	3865	87
Yuma	239	75	269	87	343	92	362	93	412	96	427	100	384	88	356	86	369	99	339	96	279	89	274	88	4053	91
ARKANSAS																										
Ft. Smith	155	50	162	53	215	58	250	64	277	64	265	61	313	71	278	67	257	69	265	76	222	72	182	60	2841	64
Little Rock	133	42	144	47	202	54	258	66	194	45	261	60	265	60	258	62	258	69	303	86	202	65	150	49	2628	59
CALIFORNIA																										
Eureka CO	156	52	190	64	245	66	232	58	316	71	266	59	238	52	179	42	239	64	148	43	96	32	77	26	2382	53
Fresno	115	37	261	86	346	93	298	76	360	82	431	98	434	97	398	95	368	99	317	91	225	73	77	26	3630	82
Los Angeles CO	215	68	247	80	298	80	321	82	264	61	269	62	343	78	365	88	313	84	225	64	230	74	149	48	3239	73
Red Bluff	170	56	233	78	320	86	241	61	419	94	401	89	447	98	421	99	358	96	322	93	197	66	107	37	3636	82
Sacramento	105	35	229	76	311	84	230	58	355	80	409	92	442	98	411	97	351	94	300	86	171	56	90	31	3404	77
San Diego	213	67	234	76	296	80	319	82	216	50	229	54	248	57	280	68	243	66	163	46	211	67	160	51	2812	63
San Francisco CO	202	66	234	78	310	84	*276	70	375	85	286	65	319	71	263	62	291	78	228	66	191	63	123	41	3098	70
COLORADO																										
Denver	214	71	196	65	276	74	300	75	315	71	283	63	359	79	307	72	287	77	276	80	166	55	165	57	3144	71
Grand Junction	154	51	179	60	276	74	284	72	304	69	369	83	391	86	333	79	334	89	285	82	163	54	124	42	3196	72
Pueblo	207	68	220	73	297	80	276	70	320	72	316	71	387	86	330	78	303	81	297	85	216	71	251	85	3420	77
CONNECTICUT																										
Hartford	176	59	160	54	190	51	156	39	292	65	225	49	316	68	243	57	233	64	153	45	145	49	156	55	2445	55
New Haven	216	73	179	60	228	62	179	45	340	76	271	60	342	74	282	66	246	66	204	59	175	59	171	59	2833	64
FLORIDA																										
Apalachicola CO	187	58	265	85	307	82	291	75	368	87	347	82	306	71	325	79	281	76	306	86	246	77	177	56	3406	75
Jacksonville	177	55	198	63	271	73	283	73	291	69	237	56	218	51	216	53	172	46	239	68	229	72	125	39	2656	60
Key West CO	289	86	248	78	337	90	357	93	379	92	323	79	301	72	311	77	277	75	258	72	241	73	172	52	3493	78
Lakeland CO	193	59	138	44	209	56	275	71	295	70	291	70	252	59	244	60	184	50	204	57	256	79	210	65	2751	62
Miami CO	280	84	180	57	328	88	322	84	314	76	254	62	262	62	275	68	249	67	236	66	220	68	186	57	3106	70
Pensacola CO	195	60	148	48	262	71	247	64	333	78	374	89	301	70	278	68	249	67	292	82	193	60	137	43	3009	67
Tampa	235	71	202	64	260	70	286	74	315	75	309	74	244	57	292	72	283	77	274	77	258	80	175	54	3133	71
GEORGIA																										
Atlanta	155	49	144	47	186	50	270	69	282	66	308	71	227	52	302	73	180	48	235	67	171	54	139	45	2599	58
Macon	190	60	171	56	272	73	264	68	308	72	309	72	247	56	310	75	220	59	253	72	232	74	153	49	2929	66
Savannah	197	62	196	63	289	78	288	74	318	74	297	70	260	60	302	73	149	40	245	69	217	69	149	48	2907	65
IDAHO																										
Boise	85	29	146	49	233	63	217	54	342	75	389	84	390	83	409	95	327	87	238	70	83	29	103	37	2962	66
Pocatello	100	34	107	36	240	65	189	47	290	64	322	70	397	82	342	79	320	85	286	84	102	35	104	37	2799	63
ILLINOIS																										
Cairo CO	163	53	162	53	244	66	291	74	331	75	345	79	381	85	381	91	327	88	251	72	201	66	147	49	3224	72
Chicago	119	40	118	40	242	65	261	65	294	65	301	66	353	77	332	77	292	78	207	60	136	46	94	33	2749	62
Moline	131	44	148	50	223	60	261	65	276	61	239	53	383	83	363	85	309	83	191	56	180	61	169	59	2873	64
Peoria	156	52	158	53	234	63	284	71	281	63	299	66	359	81	363	85	283	76	205	60	167	56	143	49	2932	66
Springfield	111	37	138	46	232	62	273	69	297	67	299	67	363	80	367	86	295	79	216	62	183	61	157	54	2931	66
INDIANA																										
Evansville	106	35	110	37	195	53	243	62	266	60	275	62	327	73	366	87	275	74	204	59	157	52	144	48	2668	60
Ft. Wayne	117	39	140	47	223	60	245	61	299	67	300	66	346	75	316	74	286	77	206	60	142	48	110	38	2730	61
Indianapolis	125	42	165	55	254	68	265	67	259	58	259	58	292	64	311	73	273	73	*200	58	186	62	157	54	2746	62
IOWA																										
Burlington	170	57	180	60	251	68	296	74	333	74	339	75	416	91	388	91	303	81	245	71	211	71	201	70	3333	75
Des Moines	116	39	137	46	243	66	291	73	320	71	309	68	404	88	367	86	296	79	236	68	171	58	145	51	3035	66
Sioux City	155	53	118	40	249	67	317	79	335	74	*265	58	401	86	367	85	270	72	248	72	141	48	122	43	2988	67
KANSAS																										
Concordia CO	193	64	156	52	252	68	284	71	222	50	185	41	363	80	402	95	277	74	267	77	215	71	194	67	3010	68
Dodge City	215	70	205	69	286	77	306	77	296	67	300	68	383	85	360	85	293	79	292	84	208	69	201	68	3345	75
Topeka	*157	52	*127	42	*254	68	308	78	*269	61	269	60	389	86	344	81	275	74	249	72	178	59	143	49	2962	65
Wichita	204	66	180	60	236	64	297	75	260	59	286	65	371	83	345	82	287	77	260	75	228	75	196	66	3150	71
KENTUCKY																										
Louisville	99	32	108	36	182	49	237	60	258	58	239	54	225	50	293	70	245	66	194	56	144	47	172	58	2496	54
LOUISIANA																										
New Orleans CO	149	46	136	44	231	62	234	61	318	75	*321	76	238	55	268	65	214	58	294	83	159	50	140	44	2702	60
Shreveport	176	55	140	45	210	56	228	58	272	64	340	79	312	72	276	67	322	87	330	94	207	66	189	60	3002	69
MAINE																										
Portland	205	71	162	55	223	60	194	48	292	64	260	56	359	77	282	65	274	73	184	54	134	46	189	68	2758	62
MARYLAND																										
Baltimore	163	54	154	51	234	63	203	51	334	73	298	67	321	71	233	55	196	52	217	63	199	66	166	57	2718	60
MASSACHUSSETTS																										
Blue Hill Observatory	178	62	140	49	192	54	141	36	296	68	221	50	292	66	254	61	230	64	159	48	128	45	164	60	2395	56
Boston	222	75	173	58	231	62	196	49	348	77	289	63	364	79	308	72	283	75	196	57	168	57	208	73	2986	67
Nantucket	135	45	120	40	218	59	146	36	300	67	271	60	304	66	281	66	246	66	205	60	104	35	138	48	2468	55
MICHIGAN																										
Alpena CO	102	36	105	36	175	47	220	54	288	63	317	68	385	82	288	66	215	57	159	47	43	15	102	37	2399	54
Detroit	92	31	104	35	233	63	266	66	291	64	307	67	223	80	279	65	270	72	165	48	30	20	96	34	2356	57
East Lansing	121	41	150	51	250	67	313	78	271	60	269	59	329	71	261	61	261	70	165	48	45	15	92	33	2527	57
Escanaba CO	123	43	119	41	196	53	213	52	278	60	263	56	295	62	293	55	232	62	178	52	88	31	119	44	2397	52
Grand Rapids	83	28	133	45	212	57	266	66	296	65	307	67	338	73	287	67	247	66	164	48	48	16	86	31	2467	55
Marquette CO	100	36	85	30	188	51	219	54	305	65	275	58	326	68	278	63	209	55	139	41	55	19	76	28	2255	50
Sault Ste. Marie	89	32	111	39	170	46	230	56	271	58	273	60	336	70	260	59	167	44	112	33	36	13	64	24	2119	45
MINNESOTA																										
Duluth	162	58	156	54	222	60	232	57	285	61	266	56	321	67	294	67	216	57	170	50	78	28	123	46	2525	57
Minneapolis	140	49	167	57	216	58	262	65	319	69	258	55	294	62	278	64	247	66	188	55	75	26	96	35	2540	55
MISSISSIPPI																										
Jackson	115	37	142	46	234	63	263	68	290	68	305	71	251	58	264	64	259	70	283	80	170	54	144	46	2720	61
Vicksburg CO	150	47	152	49	231	62	241	62	326	76	353	83	296	68	292	71	279	75	292	82	205	65	185	59	3002	68
MISSOURI																										
Columbia	126	41	140	46	238	64	265	67	222	50	275	62	389	86	352	83	290	78	233	67	188	62	169	57	2887	65
Kansas City	138	46	121	40	236	64	290	73	259	59	281	63	408	90	342	81	277	74	249	72	199	66	142	48	2942	66

See reference notes at end of table.

Table 9—Continued

SUNSHINE, AMOUNT AND PERCENT

YEAR 1955

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
MISSOURI (Cont'd.)																										
St. Louis CO	136	46	153	51	245	66	230	58	241	54	246	55	294	65	291	69	291	78	209	60	206	68	180	61	2722	61
Springfield	182	59	171	56	311	66	324	82	265	60	218	49	315	70	306	73	260	70	241	69	252	82	181	60	2959	67
MONTANA																										
Billings	150	53	154	53	231	62	275	68	287	62	336	72	327	69	347	79	284	75	253	75	117	41	130	48	2891	65
Great Falls	109	39	125	43	241	65	243	59	254	54	333	70	308	64	401	91	213	56	165	49	51	18	121	46	2564	57
Havre CO	109	40	122	43	212	57	159	39	186	39	300	62	260	54	382	86	226	60	157	47	119	43	123	47	2355	53
Helena	130	46	144	50	224	61	222	54	311	67	315	67	329	69	389	89	225	60	203	60	98	35	106	39	2696	60
Missoula	55	20	106	37	150	41	198	49	253	54	304	64	320	67	421	96	240	64	181	54	41	14	61	23	2330	52
NEBRASKA																										
Lincoln CO	177	59	113	48	260	70	348	87	340	76	256	57	397	87	366	86	*267	71	267	78	206	69	165	57	3192	72
North Platte	173	58	160	54	238	64	299	75	320	71	224	50	388	85	348	82	251	67	238	69	156	52	117	40	2912	65
Omaha	141	47	120	40	226	61	299	75	284	63	232	51	392	85	357	84	274	73	264	77	197	66	164	57	2950	65
Valentine 1/	201	69	186	63	262	71	324	81	365	80	286	62	415	89	313	73	262	70	251	73	200	68	170	60	3235	73
NEVADA																										
Ely	182	60	200	66	312	84	272	68	308	69	355	80	381	84	305	72	315	84	285	82	180	60	148	50	3243	73
Las Vegas	238	77	259	85	338	91	351	89	389	89	414	93	383	86	310	74	368	99	318	91	268	87	234	78	3870	87
Reno	184	61	239	80	331	89	270	68	338	76	389	87	412	91	415	98	317	85	324	94	238	79	197	67	3654	82
Winnemucca	173	58	172	58	255	69	228	57	318	71	395	77	381	83	393	92	305	81	270	79	139	47	85	30	3114	69
NEW HAMPSHIRE																										
Concord	190	65	155	52	195	53	146	36	279	61	219	48	345	74	241	56	232	62	159	47	120	41	157	56	2438	53
Mt. Washington Obs.	136	46	125	42	95	25	141	34	155	33	127	27	205	43	135	32	171	45	115	33	67	23	115	41	1587	35
NEW JERSEY																										
Atlantic City CO	180	60	184	61	236	64	185	47	288	65	272	61	351	77	263	62	206	55	250	72	212	70	164	56	2791	63
Trenton CO	199	66	177	59	223	60	191	48	304	68	256	57	324	71	250	59	221	59	214	62	205	68	187	64	2751	64
NEW MEXICO																										
Albuquerque	222	71	257	84	309	83	332	85	327	75	398	92	328	75	310	75	337	91	320	91	257	83	242	79	3639	82
NEW YORK																										
Albany	181	62	156	53	195	52	219	54	292	64	247	54	337	73	218	51	251	67	124	36	71	24	145	52	2436	54
Binghamton	164	56	147	50	175	47	197	49	297	66	281	62	362	78	253	59	231	62	149	44	60	20	48	17	2364	53
Buffalo	138	47	172	58	167	45	234	58	295	65	353	77	377	81	272	63	232	62	163	48	79	27	92	33	2574	58
New York CO	216	72	178	60	217	59	176	44	338	75	247	55	308	67	240	56	226	61	206	60	182	61	174	60	2708	61
Rochester	146	50	114	39	171	46	216	54	310	68	344	75	375	80	318	74	255	68	140	41	78	27	91	33	2558	55
Syracuse	153	53	132	45	162	44	230	57	293	64	292	64	367	79	226	53	242	65	160	47	51	17	61	22	2369	53
NORTH CAROLINA																										
Asheville CO	164	52	183	60	216	58	258	66	311	71	275	63	237	53	256	61	243	65	252	72	217	70	168	55	2780	62
Charlotte	171	55	181	59	209	56	266	68	270	62	296	68	245	55	237	57	195	52	271	77	233	75	197	65	2771	62
Greensboro	206	66	195	64	229	62	281	72	325	74	330	76	318	72	263	63	202	54	244	70	226	73	218	72	3037	68
Hatteras CO	131	42	146	48	204	55	212	54	284	65	---	-	---	--	---	--	---	--	293	84	238	79	201	70	----	--
Raleigh	195	63	206	68	267	72	243	62	275	63	251	57	325	73	282	67	167	45	235	67	212	69	182	60	2840	64
Wilmington	190	60	206	67	267	72	277	71	291	67	307	71	268	61	238	57	142	38	271	77	246	79	190	62	2893	65
NORTH DAKOTA																										
Bismarck	162	58	194	67	305	82	257	63	320	69	305	64	357	75	359	82	288	76	271	80	150	53	137	51	3105	69
Devils Lake CO	136	49	171	60	234	63	224	55	238	51	263	55	313	65	358	81	253	67	267	79	102	36	139	53	2698	60
Fargo	116	41	155	54	243	66	283	69	326	70	297	63	343	71	288	66	212	56	236	70	94	33	144	54	2737	61
Williston CO	91	33	153	54	218	59	231	56	263	56	298	62	332	69	364	82	242	64	225	67	131	47	96	37	2644	59
OHIO																										
Cincinnatti Observatory	112	37	141	47	223	60	239	60	282	64	307	69	317	70	313	71	264	71	217	63	156	52	180	61	2751	62
Cleveland	84	28	82	28	217	59	253	63	326	72	320	71	356	77	278	65	276	74	167	48	69	23	76	26	2504	53
Columbus	125	42	133	44	210	57	271	68	298	67	288	64	305	67	318	75	272	73	220	64	119	40	152	52	2711	60
Dayton	137	46	134	45	237	64	260	65	320	72	310	69	290	64	342	80	305	82	222	64	162	54	164	56	2883	63
Sandusky CO	111	37	129	43	209	56	303	76	338	75	333	73	402	88	318	74	292	78	187	54	91	31	108	38	2821	60
Toledo	100	34	102	34	211	57	269	67	323	72	331	73	378	82	324	76	278	74	202	59	136	46	142	50	2796	63
OKLAHOMA																										
Oklahoma City	152	49	202	66	248	67	284	72	*255	59	---	--	---	--	---	--	---	--	276	79	265	86	190	63	----	--
Tulsa	182	59	186	61	231	62	264	67	295	68	323	74	378	85	317	76	282	76	277	79	246	80	202	67	3183	71
OREGON																										
Portland	46	16	79	27	110	30	98	24	178	38	171	36	182	38	328	75	211	56	95	28	39	14	59	22	1596	36
Roseburg	70	24	104	35	149	40	121	30	264	58	272	59	287	62	266	85	264	70	121	35	62	21	57	20	2037	48
PENNSYLVANIA																										
Harrisburg	185	62	147	49	247	67	204	52	317	71	285	63	355	78	296	70	247	66	211	61	169	57	149	51	2812	63
Philadelphia	---	--	162	54	242	65	211	53	323	72	272	61	311	68	242	57	207	55	187	54	182	61	181	62	----	--
Pittsburgh CO	89	30	101	34	164	44	235	59	294	66	286	63	*326	72	*224	53	*280	75	157	45	83	28	67	23	2306	52
Pittsburgh	96	32	97	33	198	53	195	49	249	56	192	43	274	60	218	51	287	77	212	61	154	52	135	47	2307	51
Reading CO	187	62	152	51	218	59	172	43	286	64	230	51	324	71	249	58	217	58	183	53	156	52	144	50	2518	56
Scranton CO 2/	140	47	115	39	181	49	171	43	268	60	246	54	341	74	233	54	229	61	150	43	95	32	89	31	2258	49
RHODE ISLAND																										
Providence	199	67	158	53	217	59	163	41	195	72	256	56	341	74	264	61	244	65	174	51	151	51	182	64	2544	60
SOUTH CAROLINA																										
Charleston CO	205	64	229	74	288	78	273	70	314	73	326	76	295	68	268	65	148	40	267	76	249	79	183	59	3145	69
Columbia	201	64	179	58	230	62	268	69	333	77	353	82	355	81	356	86	207	56	299	85	246	79	214	70	3241	73
Greenville	191	61	155	51	206	55	260	66	275	63	293	68	278	63	296	71	227	61	240	69	234	75	189	62	2844	64
SOUTH DAKOTA																										
Huron	163	57	173	59	243	66	299	74	353	77	332	71	392	84	321	74	272	72	253	74	150	52	129	47	3080	69
Rapid City	130	45	115	39	222	60	257	64	263	57	206	44	348	74	303	70	256	68	240	70	169	58	112	41	2621	59
TENNESSEE																										
Chattanooga	151	48	171	54	227	61	279	71	313	72	304	70	291	66	315	76	264	71	232	66	195	63	148	48	2890	64
Knoxville	140	45	130	43	181	49	233	59	226	52	272	62	279	63	293	70	235	63	206	59	194	63	149	49	2538	57
Memphis	171	55	156	51	208	56	261	66	305	70	319	73	305	69	352	84	284	76	275	79	202	65	165	54	3003	68
Nashville	151	48	137	45	232	62	266	68	306	70	306	70	327	74	323	77	282	76	229	66	184	60	176	58	2919	65
TEXAS																										
Abilene	185	58	186	60	261	70	245	63	196	46	350	82	335	77	328	79	325	88	320	91	251	80	226	72	3208	72
Amarillo	210	67	237	77	288	78	309	79	314	72	329	76	342	77	317	76	285	77	288	82	279	90	254	83	3452	78
Austin	157	48	131	42	196	53	263	68	276	65	322	76	293	68	288	70	219	59	294	83	171	54	224	71	2834	64
Brownsville	169	51	168	53	214	57	178	47	312	75	345	84	266	63	277	68	166	45	245	69	123	38	185	56	2648	59
Corpus Christi	191	58	205	65	279	75	252	65	295	70	353	85	322	76	303	75	197	53	310	87	182	56	191	59	3080	69
Dallas	123	39	160	52	197	53	263	67	289	67	342	80	357	82	299	72	268	72	276	79	217	69	196	63	2987	67
Del Rio	172	53	165	53	223	60	253	65	265	63	300	71	294	69	298	73	233	63	305	86	201	63	216	68	2925	66
El Paso	235	73	268	86	298	80	330	85	354	83	382	90	312	73	343	83	332	90	303	86	276	87	259	83	3692	83
Galveston CO	144	44	178	57	244	66	232	60	322	76	381	91	297	69	230	56	231	63	311	87	170	53	166	52	2906	65
Houston CO	185	57	183	59	233	63	244	63	297	70	371	88	255	59	247	60	218	59	308	87	181	56	168	53	2890	65
Port Arthur	132	41	159	51	230	62	230	59	294	69	340	81	225	52	253	62	229	62	310	87	156	49	165	52	2723	62

See reference notes at end of table.

SUNSHINE, AMOUNT AND PERCENT

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
TEXAS (Cont'd.)																										
San Antonio	179	55	163	52	220	58	249	64	305	72	335	80	318	74	323	79	273	74	308	87	188	59	221	69	3082	69
UTAH																										
Salt Lake City	161	54	164	55	236	63	231	58	339	76	291	64	393	86	306	72	301	80	263	76	122	41	98	34	2905	65
VERMONT																										
Burlington	143	50	155	53	150	41	223	55	279	61	309	66	369	79	277	64	267	71	124	36	55	19	77	28	2428	52
VIRGINIA																										
Lynchburg	163	52	181	60	210	57	229	58	318	72	323	73	290	65	225	53	185	50	233	67	215	70	171	57	2743	62
Norfolk	210	68	205	68	232	63	195	49	309	71	321	73	312	70	256	61	180	48	272	78	230	75	192	64	2914	65
Richmond	157	51	177	59	228	62	224	57	289	66	288	65	320	71	240	57	172	46	236	68	210	69	172	58	2713	61
Washington Nat'l. Airport	137	45	152	51	233	63	198	50	281	63	264	59	275	61	203	48	203	54	227	65	214	71	185	63	2572	58
WASHINGTON																										
Seattle CO	58	21	124	43	200	54	248	60	185	39	216	45	208	43	346	78	204	54	111	33	56	20	95	36	2051	46
Spokane	34	12	122	43	207	56	204	50	220	47	328	69	340	70	427	97	275	73	129	38	74	27	62	24	2422	54
Tatoosh Island	62	23	122	43	122	33	198	48	187	40	102	21	106	22	171	39	167	44	106	32	59	21	58	22	1460	33
Walla Walla CO	32	11	87	30	155	42	179	44	312	67	400	85	361	76	431	99	287	76	188	55	48	17	43	16	2523	56
WEST VIRGINIA																										
Parkersburg CO	68	22	95	32	169	46	199	50	277	62	262	59	263	58	273	64	270	72	169	49	150	50	153	52	2348	51
WISCONSIN																										
Green Bay	146	51	137	47	234	63	239	59	288	63	288	62	306	65	298	69	227	61	161	47	96	33	114	41	2534	57
Madison	157	54	141	48	249	67	257	64	303	67	343	75	407	88	381	89	312	83	207	61	121	42	130	46	3008	67
Milwaukee	160	55	131	44	251	68	251	62	301	66	297	65	369	79	317	74	258	69	204	60	140	48	116	41	2795	63
WYOMING																										
Cheyenne	181	61	166	56	181	49	235	59	279	62	221	49	343	74	250	59	264	71	261	76	133	45	130	45	2644	61
Lander	217	74	155	52	306	83	306	76	358	79	312	68	399	86	306	71	329	88	303	89	195	67	187	66	3373	75
Sheridan	139	49	156	53	223	60	244	60	236	51	257	55	376	80	342	79	254	68	238	70	99	35	111	41	2675	60
ALASKA																										
Anchorage	78	38	84	33	209	57	266	60	281	52	252	44	405	71	173	35	204	53	107	34	116	53	70	40	2245	50
Juneau	25	11	82	31	155	41	228	53	199	38	185	34	175	32	57	12	111	29	51	16	115	49	66	33	1449	32
Nome	79	47	162	68	198	54	267	58	241	42	89	14	171	28	178	35	93	24	104	35	83	44	50	39	1715	37
PUERTO RICO																										
San Juan 3/	275	79	241	74	304	81	284	75	*272	68	325	82	327	81	257	65	228	62	249	69	257	76	230	67	3249	73
PACIFIC AREA																										
Hilo T. H.	140	41	103	32	128	34	141	37	104	26	111	28	190	47	171	43	130	35	128	35	85	25	167	46	1598	36
Honolulu T. H.	229	67	163	51	225	60	252	66	247	61	240	60	281	68	286	72	231	64	*215	60	204	61	168	50	2741	62
Lihue T. H.	119	35	126	39	152	41	134	35	146	36	200	49	268	64	286	72	267	72	150	42	94	28	111	33	2053	46

* Interpolated data during this period.
1. Changed to Municipal Airport August 2.
2. Changed to Wilkes-Barre Scranton Airport April 18.
3. Changed to Isla Verde Airport May 24.

ANNUAL CLIMATOLOGICAL DATA

Table 10 YEAR 1955

State and Station	Temperature							Degree days	Precipitation						Relative humidity				Wind					Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet, Hail									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date		Total	Greatest in 24 hrs	Date	Total	Greatest in 24 hrs	Date	1:30a E.S.T.	7:30a E.S.T.	1:30p E.S.T.	7:30p E.S.T.	Average hourly speed	Prevailing direction	Speed	Direction	Date			Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Sleet 1.0 or more	Thunderstorms	Heavy fog	90° and above	32° and below	32° and below	Zero and below
ALABAMA																																				
Birmingham	74.5	51.7	63.1	97	Sep. 22+	17	Dec. 16	2700	46.35	3.84	Feb. 5-6	T	T	Dec. 9+	79	8[illegible]	51	60	7.9	NE	65	SW	Mar. 21	56	5.8	99	128	138	109	0	52	13	67	1	61	0
Mobile	78.1	57.4	67.8	97	Aug. 22	22	Feb. 12	1611	73.74	13.36	Apr. 13	3.5	3.5	Jan. 23	86	87	57	75	9.5	S	--	---	---	--	5.7	99	131	135	110	1	78	27	86	0	26	0
Montgomery	77.1	54.2	65.7	97	Aug. 22+	19	Feb. 12	2191	39.69	3.33	Apr. 13	T	T	Jan. 23	83	88	53	63	6.9	NW	48	SW	May 13	63	5.7	106	118	141	99	0	64	16	94	0	43	0
ARIZONA																																				
Flagstaff	59.8	28.0	43.9	88	Jun. 8	-16	Feb. 4	7599	17.97	2.63	Jun. 12-13	74.0	9.2	Jan. 3-4	--	73	39	--	---	---	--	---	---	--	3.7	198	94	73	61	18	35	4	0	25	219	21
Phoenix	83.2	55.7	69.5	11[illegible]	Jun. 9+	26	Feb. 22	1507	9.82	1.97	Jul. 24-25	T	T	Jun. 12	47	56	34	27	5.0	E	*35	S	Aug. 2+	92	3.0	236	65	64	32	0	21	2	153	0	14	0
Prescott	69.3	39.6	54.5	101	Jun. 8	7	Feb. 21	4526	10.86	1.73	Jun. 12-13	13.6	5.3	Jan. 7-8	--	57	32	30	8.5	SSW	60	SE	May 31	83	3.7	198	90	77	58	5	42	7	33	1	135	0
Tucson	82.2	52.6	67.4	110	Jun. 22	20	Feb. 22+	1753	15.90	2.33	Jul. 21-22	T	T	Aug. 30+	40	48	26	24	7.2	SE	44	NE	Aug. 30+	87	3.4	218	68	79	43	0	38	0	137	0	30	0
Winslow	71.0	39.6	55.3	99	Jun. 22	4	Feb. 22	4584	6.94	2.12	Jun. 12-13	1.9	1.4	Jan. 8	42	53	28	24	8.6	WSW	*50	WSW	Apr. 2	--	3.3	225	81	59	44	1	36	3	74	5	141	0
Yuma	87.8	58.0	72.9	116	Jun. 9	31	Feb. 20	1069	2.95	.67	Aug. 11	.0	.0	----	39	47	26	20	7.6	N	38	W	Dec. 2+	91	2.3	267	63	35	16	0	8	5	180	0	3	0
ARKANSAS																																				
Fort Smith	73.5	50.1	61.8	101	Jul. 30	9	Feb. 11	3291	31.47	2.14	Sep. 22-23	6.9	5.5	Jan. 10	79	86	55	60	7.4	ENE	42	SE	Apr. 27	64	5.0	145	98	122	84	1	60	8	90	3	80	0
Little Rock	73.2	52.6	62.9	99	Jul. 10	13	Feb. 11	2983	42.61	7.71	May 26-27	2.3	1.0	Apr. 1	74	80	53	57	9.2	ENE	41	E	Apr. 12+	59	5.6	123	102	140	88	1	53	12	73	1	57	0
Texarkana	75.0	53.7	64.4	98	Jul. 11+	14	Feb. 11	2559	4[illegible].70	3.60	Sep. 22-23	1.0	1.0	Apr. 4	--	--	--	--	---	---	--	---	---	--	---	---	---	---	82	1	56	17	75	0	50	0
CALIFORNIA																																				
Bakersfield	77.4	51.0	64.2	112	Sep. 3	26	Jan. 8	2[illegible]61	4.58	.72	Feb. 16-17	.0	.0	----	54	66	45	35	5.8	NW	*32	NNW	Apr. 1	--	3.4	218	66	81	36	0	1	23	107	0	12	0
Bishop	73.9	34.1	54.0	104	Aug. 11+	-6	Jan. 20	4855	7.80	2.54	Dec. 22-23	22.5	8.0	Jan. 18	--	--	29	23	---	---	--	---	---	--	3.3	221	78	66	32	6	11	1	96	0	167	4
Blue Canyon	56.9	40.4	48.7	93	Sep. 4	1[illegible]	Feb. 28	6244	84.17	9.31	Dec. 21-22	335.8	33.7	Apr. 17	--	--	46	50	---	---	--	---	---	--	4.3	192	57	116	89	46	12	70	4	29	118	0
Burbank	74.9	51.2	63.1	111	Sep. 6+	32	Feb. 20	1804	12.03	1.72	Apr.30-May 1	.1	.1	Mar. 16	68	75	49	46	5.2	S	*35	N	Apr. 10+	--	4.2	179	98	88	43	0	5	26	53	0	1	0
Eureka CO	55.2	44.9	50.1	69	Sep. 25	30	Dec. 29+	5363	36.51	2.38	Apr. 19-20	.8	.8	Feb. 27	--	--	--	--	7.1	†N	54	S	Jan. 17	53	6.9	78	71	216	120	0	5	44	0	0	11	0
Fresno	74.6	47.4	61.0	111	Sep. 3	26	Jan. 8	2875	15.21	1.76	Dec. 22-23	T	T	Nov. 16+	64	78	52	38	6.1	NW	36	NW	Apr. 1	82	3.4	218	70	77	48	0	2	33	88	0	33	0
Los Angeles	69.2	53.4	61.3	108	Sep. 1	37	Jan. 26	1744	10.14	1.42	Apr. 21-22	T	T	Jan. 18-19	77	80	57	64	7.0	W‡	48	N	Apr. 2+	--	4.[illegible]	148	121	96	39	0	3	50	5	0	0	0
Los Angeles CO	72.9	54.4	63.7	110	Sep. 1	39	Feb. 19+	1424	11.89	1.29	Apr.30-May 1	.0	.0	----	71	74	b 47	54	6.0	†W	40	NW	Apr. 2	73	3.9	180	112	73	39	0	7	20	17	0	0	0
Mount Shasta CO	61.2	35.2	48.2	103	Sep. 2	9	Feb. 28+	6306	35.72	4.30	Dec. 21-22	144.2	24.6	Jan. 17-18	63	74	54	46	---	---	--	---	---	--	4.7	164	79	122	68	25	5	12	29	9	160	0
Oakland	63.8	46.3	55.1	96	Sep. 1	31	Jan. 14+	3637	20.81	2.21	Dec. 22	T	T	Apr. 25	81	86	68	61	7.0	W	*46	SSW	Dec. 23	--	4.2	181	90	94	63	0	1	15	3	0	7	0
Red Bluff	74.3	49.4	61.9	111	Sep. 4	25	Feb. 28	2881	18.58	2.45	Dec. 5-6	5.3 AP	3.3 AP	Jan. 9 AP	53 AP	61 AP	44 AP	34 AP	9.7 AP	NNW AP	51 AP	SE AP	Dec. 22 AP	82 AP	4.1 AP	192 AP	67 AP	106 AP	64	2 AP	7 AP	13 AP	96	0	27	0
Sacramento CO	73.0	48.0	60.5	109	Sep. 2	29	Jan. 8	2729	23.15	3.27	Dec. 18-19	T	T	Apr.26+	69	78	55	41	9.2	SW	59	SE	Dec.19	77	3.5	217	61	87	64	0	3	37	70	0	11	0
Sandberg CO	63.3	45.9	54.6	97	Sep. 5+	21	Feb. 19+	4675	11.08	2.09	Jan. 6-7	63.8	20.9	Jan. 6-7	--	--	42	41	---	---	--	---	---	--	3.2	231	64	70	37	10	1	63	26	7	74	0
San Diego	69.4	55.2	62.3	104	Sep. 1	38	Feb. 19+	1480	6.91	1.31	Jan. 10	.0	.0	----	77	78	59	61	6.5	WNW	39	SW	Jan. 18	63	4.6	155	117	93	43	0	0	33	4	0	0	0
San Francisco	63.8	46.2	55.0	94	Sep. 1	30	Jan. 8	3614	21.35	3.33	Dec. 22-23	T	T	Apr. 25+	84	88	68	66	10.8	WNW	53	S	Dec. 19	--	4.2	192	79	94	62	0	0	22	2	0	4	0
San Francisco CO	61.2	49.1	55.[illegible]	88	Sep. 1	39	Jan. 14	3541	20.97	2.57	Dec. 21-22	T	T	Feb. 26-27	--	--	b 67	--	9.1	†W	42	SW	Dec. 23+	70	4.1	176	108	81	62	0	1	4	0	0	0	0
Santa Maria	65.4	44.5	55.0	102	Sep. 1	28	Jan. 8	3653	14.98	3.07	Dec. 24-25	T	T	Jan. 18+	84	86	60	64	6.7	WNW	*28	NW	Apr. 2	--	4.3	174	112	79	50	0	4	101	4	0	21	0
COLORADO																																				
Alamosa	59.7	23.0	41.4	88	Jul. 9	-19	Feb. 20	8541	4.16	.84	May 17-18	16.6	6.5	May 18	--	68	36	35	---	---	--	---	---	--	4.1	173	129	63	46	4	31	9	0	25	228	57
Colorado Springs	63.3	34.0	48.7	94	Jul. 10+	-8	Nov. 16	6367	13.36	2.57	May 17-18	24.7	5.2	Feb. 2-3	56	59	33	36	11.3	NNE	*46	NW	Feb. 28	--	4.2	172	119	74	71	8	46	16	22	26	164	9
Denver	63.8	36.5	50.2	99	Jul. 10	-5	Feb. 20	6080	16.05	1.71	Sep. 18-19	54.7	9.5	Mar. 24-25	55	59	34	37	10.1	S	49	N	Mar. 31	71	5.0	134	126	105	80	16	38	7	37	33	149	6
Grand Junction	63.1	39.3	51.2	99	Jul. 14	-3	Feb. 20	6074	6.75	.72	Apr. 11	32.9	3.9	Feb. 18-19	50	57	39	37	9.5	ESE	59	W	Apr. 2	72	4.7	155	105	105	62	11	31	13	62	38	151	2

See reference notes at end of table.

Table 10—Continued

ANNUAL CLIMATOLOGICAL DATA

YEAR 1955

State and Station	Temperature							Degree days	Precipitation						Relative humidity				Wind					Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet, Hail									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date		Total	Greatest in 24 hrs	Date	Total	Greatest in 24 hrs	Date	1:30a E.S.T.	7:30a E.S.T.	1:30p E.S.T.	7:30p E.S.T.	Average hourly speed	Prevailing direction	Speed	Direction	Date			Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Sleet, Hail 1.0 or more	Thunderstorms	Heavy fog	90° and above	32° and below	32° and below	Zero and below
COLORADO (Cont'd.)																																				
Pueblo	67.9	36.6	52.3	100	Jul. 6	-11	Nov. 16	5521	14.79	2.95	Aug. 29	12.3	2.8	Feb. 3	54	65	36	33	8.9	W	72	N	Apr. 12	77	4.4	162	119	84	61	4	35	8	53	17	159	7
CONNECTICUT																																				
Bridgeport	60.4	44.0	52.2	96	Aug. 20+	0	Dec. 21	5515	43.54	5.84	Oct. 15-16	15.5	4.0	Dec. 22	--	75	59	68	---	---	--	---	---	--	5.3	125	110	130	117	5	27	29	17	23	111	2
Hartford	59.7	40.5	50.1	101	Aug. 5	-4	Dec. 21+	6180	62.94	12.12	Aug. 18-19	27.6	5.0	Mar. 4	79	77	54	67	11.1	S	51	NW	Nov. 21	55	6.0	101	110	154	133	10	32	29	25	40	131	4
New Haven	59.1	42.4	50.8	95	Aug. 2	0	Feb. 3	5875	48.32	3.81	Oct. 15-16	23.0	4.1	Dec. 22	--	78	59	--	7.4	---	44	E	Oct. 14	64	5.8	102	121	142	134	7	36	28	8	25	116	1
DELAWARE																																				
Wilmington	64.3	44.9	54.6	101	Aug. 6+	3	Feb. 3	4958	37.14	4.00	Aug. 12-13	19.5	4.3	Nov. 19	79	78	54	69	8.4	S	40	E	Aug. 13	--	5.7	106	120	139	109	7	29	40	34	17	105	0
DIST. OF COLUMBIA																																				
Washington CO	66.4	48.7	57.6	100	Aug. 2	9	Feb. 3	4134	45.66	6.12	Aug. 12-13	10.4	4.0	Feb. 11	AP 74	AP 75	AP 52	AP 62	7.1	AP S	43	NW	Mar. 16	AP 58	AP 5.6	AP 126	AP 99	AP 140	107	4	31	AP 13	37	9	77	0
Washington	65.6	48.5	57.1	98	Aug. 2+	10	Feb. 3	4230	41.44	6.39	Aug. 12-13	9.3	2.5	Feb. 11	74	75	52	62	10.2	S	50	SW	Mar. 22	58	5.6	126	99	140	106	4	36	13	31	10	83	0
FLORIDA																																				
Apalachicola CO	75.8	62.0	68.9	95	Aug. 11	27	Feb. 13	1234	34.07	4.30	Aug. 22-23	.0	.0	----	85	88	68	77	7.9	---	34	SE	Aug. 10	75	4.7	157	100	108	89	0	74	31	15	0	7	0
Daytona Beach	80.1	59.9	70.0	97	Aug. 12	27	Jan. 30	848	38.80	2.55	Nov. 9-10	.0	.0	----	86	86	59	76	9.4	E	38	W	Jan. 18	--	5.5	113	135	117	98	0	69	43	50	0	5	0
Fort Myers	83.7	62.1	72.9	95	Aug. 9	32	Feb. 13	370	43.96	4.03	Sept. 7-8	.0	.0	----	92	90	57	78	7.8	NE	37	NW	Jun. 11	--	4.9	144	126	95	112	0	101	23	114	0	1	0
Jacksonville CO	79.0	60.9	70.0	97	Aug. 12	26	Feb. 13	1126	46.21	3.63	Oct. 2-3	AP T	AP T	May 15+	AP 83	AP 85	AP 51	AP 70	AP 9.0	AP NW	AP 46	AP NE	May 15	AP 60	AP 5.4	AP 112	AP 141	AP 112	106	0	AP 46	AP 28	76	0	7	0
Key West CO	84.2	71.3	77.8	95	Aug. 13+	48	Feb. 13	54	24.11	3.18	Jun. 15-16	T	T	May 18-19	--	84	67	78	7.8	†E	31	SW	May 17	78	4.9	124	170	71	102	0	54	1	94	0	0	0
Lakeland CO	81.8	62.8	72.3	95	May 10+	30	Feb. 13	554	44.08	2.29	Sep. 9-10	.0	.0	----	--	--	--	--	5.9	†NE	--	---	---	62	5.2	110	153	102	104	0	94	24	93	0	2	0
Miami CO	80.4	68.7	74.6	93	Aug. 12+	39	Feb. 13+	175	40.34	3.94	Jun. 11-12	.0	.0	----	AP 84	AP 85	AP 59	AP 73	11.4	†S	45	†S	Apr 16	70	4.7	134	169	62	123	0	63	8	12	0	0	0
Miami Beach	81.4	70.8	76.1	97	Aug. 11+	41	Feb. 13	89	35.02	3.48	Jun. 12	.0	.0	----	--	--	--	--	----	---	--	---	---	--	---	130	106	129	133	0	---	---	14	0	0	0
Orlando	82.3	61.1	71.7	95	Aug. 18+	31	Feb. 13	635	42.26	2.50	Sept. 7-8	T	T	Oct. 17+	89	89	55	73	8.2	S	45	WNW	Mar. 22	--	5.1	121	156	88	110	0	77	35	104	0	2	0
Pensacola CO	76.1	60.7	68.4	97	Aug. 23+	24	Feb. 12	1428	57.38	9.16	Feb. 5-6	.3	.3	Jan. 23	AP 82	AP 83	AP 56	AP 72	AP 9.7	AP SSW	36	SE	May 20	67	---	---	---	---	94	0	63	---	34	0	11	0
Tallahassee	79.1	56.6	67.9	97	Jun. 22	23	Feb. 13	1518	44.11	4.40	Jun.30-Jul.1	.4	.4	Mar. 28	86	87	53	71	5.9	S	--	---	---	--	5.7	99	129	137	102	0	85	58	80	0	21	0
Tampa	81.0	61.9	71.5	92	Aug. 24+	31	Feb. 13	617	48.81	2.88	Jun.30-Jul. 1	.0	.0	----	87	87	56	75	8.7	N	41	E	Jul. 20	71	5.0	124	133	108	107	0	94	30	63	0	1	0
West Palm Beach	83.5	66.1	74.8	97	Aug. 10	39	Jan. 30	188	37.31	5.26	Dec. 13-14	.0	.0	----	84	84	59	76	11.5	E	48	WNW	Jan. 24	--	5.6	101	157	107	111	0	60	9	84	0	0	0
GEORGIA																																				
Atlanta	72.4	52.5	62.5	96	Jul. 4	13	Feb. 12	2729	36.43	2.56	Feb. 5-6	T	T	Jun. 7+	77	81	53	62	9.4	†NW	51	†SE	Jul. 4	58	5.8	102	113	150	115	0	46	33	42	1	42	0
Athens	73.3	50.8	62.1	99	Jul. 3	14	Feb. 13	2841	36.93	1.72	Feb. 7	1.0	1.0	Jan. 23	--	--	--	--	----	---	--	---	---	--	5.2	135	107	123	101	1	65	7	63	1	57	0
Augusta	76.2	51.1	63.7	97	Aug. 19+	15	Dec. 17	2526	34.05	----	Apr. 13-14	.5	.5	Jan. 23	85	86	52	71	6.5	NE	46	SSW	May 29	--	5.8	111	99	155	94	1	59	20	74	0	64	0
Columbus	76.1	52.7	64.4	97	Jul. 4	17	Feb. 13	2329	42.26	5.32	July 24-25	T	T	Dec. 12+	--	85	52	67	----	---	--	---	---	--	5.8	108	101	156	105	0	56	17	79	0	50	0
Macon	77.0	54.2	65.6	99	Aug. 22+	18	Feb. 13+	2152	35.52	3.65	Apr. 13-14	3.7	3.7	Jan. 23	78	82	48	60	7.1	W	36	†SE	May 21+	66	5.5	120	101	144	105	1	56	14	94	0	39	0
Rome	73.3	48.1	60.7	98	Sep. 21+	10	Feb. 13	3228	46.07	3.84	Feb. 5-6	.2	.2	Jan. 13	--	84	51	68	----	---	--	---	---	--	5.7	106	120	139	109	0	62	24	74	1	85	0
Savannah	77.2	54.4	65.8	98	Aug. 20	20	Feb. 13	1951	38.52	2.72	Jun. 27	T	T	Dec. 12+	86	87	58	75	9.3	NE	46	NW	Jan. 13	65	5.6	115	116	134	96	0	66	23	68	0	36	0
IDAHO																																				
Boise	59.9	37.3	48.6	105	Aug. 30	-3	Nov. 15	6647	12.19	1.16	Dec. 22-23	34.4	5.9	Jan. 30-31	62	69	52	48	10.0	SE	45	NW	Jun. 23	66	5.7	118	85	162	106	13	7	20	52	46	149	1
Idaho Falls 46 W, CO	54.9	24.6	39.8	99	Jul. 15	-24	Nov. 16+	9394	6.76	.52	Dec. 22-23	29.2	3.5	Jan. 1	--	--	--	--	9.0	WSW	d 51	WSW	Mar. 22	--	---	---	---	---	77	11	13	---	38	83	227	50
Idaho Falls 42 NW,CO	54.5	23.7	39.1	99	Jul. 19+	-26	Jan. 21+	9608	6.90	.66	Jun. 15-16	----	---	----	--	--	--	--	7.8	SSW	d 46	SSW	Feb. 28	--	---	---	---	---	90	---	---	---	34	86	231	51
Lewiston	60.0	37.8	48.9	106	Jul. 16	-3	Nov. 15+	6393	14.09	1.73	Sep. 14	40.6	5.4	Mar. 14	--	73	57	49	----	---	--	---	---	--	6.6	96	68	201	115	16	13	30	42	23	140	3
Pocatello	57.3	32.2	44.8	100	Jul. 15	-15	Jan. 7	7772	9.04	.61	Dec. 24-25	50.0	8.9	Apr. 2	61	71	52	47	12.9	SW	72	W	Mar. 24	63	6.0	108	91	166	97	13	27	13	41	59	173	16

See reference notes at end table.

ANNUAL CLIMATOLOGICAL DATA

State and Station	Temperature							Degree days	Precipitation						Relative humidity				Wind					Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet, Hail									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date		Total	Greatest in 24 hrs	Date	Total	Greatest in 24 hrs	Date	1:30a E.S.T.	7:30a E.S.T.	1:30p E.S.T.	7:30p E.S.T.	Average hourly speed	Prevailing direction	Speed	Direction	Date			Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Sleet, Hail 1.0 or more	Thunderstorms	Heavy fog	90° and above	32° and below	32° and below	Zero and below
ILLINOIS																																				
Cairo	69.1	51.1	60.1	97	Aug. 6+	4	Feb. 11	3702	40.45	3.68	Mar. 20-21	5.1	3.3	Jan. 10	--	82	58	--	8.5	S	43	NE	Jul. 11	72	4.9	143	108	114	107	1	56	4	67	12	74	[illegible]
Chicago	61.4	42.9	52.2	100	Jul. 27	-10	Jan. 27	5909	30.96	3.11	Aug. 5-6	26.2	4.0	Nov. 18-19	70	73	52	59	10.6	S	54	NW	Mar. 22	62	5.8	116	109	140	118	13	37	[illegible]	[illegible]	46	126	[illegible]
Moline	61.0	40.2	50.6	100	Jul. 30+	-16	Jan. 27	6307	26.09	1.74	Apr. 19	31.0	7.5	Mar. 21-22	76	80	56	60	11.7	S	68	[illegible]W	May 6	64	5.3	135	94	136	97	10	41	[illegible]	36	47	131	19
Peoria	61.9	42.1	52.0	98	Jul. 29+	-14	Jan. 27	5875	29.99	4.32	Aug. 29	25.2	3.2	Mar. 21-22+	--	81	56	62	10.8	S	50	SW	May 26+	66	5.3	133	102	130	107	12	48	[illegible]	40	48	121	9
Springfield	64.0	43.4	53.7	98	Jul. 28	-7	Feb. 11	5387	34.15	3.44	Jul. 14	14.3	2.6	Mar. 21-22	77	82	57	63	12.4	S	56	SW	May 26	66	5.4	131	103	131	106	6	48	12	49	[illegible]	[illegible]	7
INDIANA																																				
Evansville	67.6	45.7	56.7	99	Sep. 9	1	Feb. 11	4477	40.52	3.95	Apr. 23	6.5	4.7	Jan. 10	83	83	56	65	8.7	SSW	47	SW	Mar. 1	60	5.7	120	95	150	107	1	41	8	64	21	105	[illegible]
Fort Wayne	62.1	41.0	51.6	101	Jul. 4	-9	Jan. 29	5936	41.09	3.47	Jul. 14-15	30.3	6.1	Mar. 25-26	80	82	55	66	11.9	S[illegible]	63	SW	Mar. 22	61	6.1	98	99	168	121	11	[illegible]	[illegible]	[illegible]	[illegible]	129	[illegible]
Indianapolis	62.8	42.7	52.8	95	Sep. 9+	-7	Jan. 29	5495	37.91	3.02	Nov. 15-16	19.9	3.6	Nov. 18-19	79	81	57	65	11.4	SW	56	NW	Mar. 11	62	6.0	109	100	156	[illegible]	8	50	14	[illegible]	[illegible]	[illegible]	[illegible]
South Bend	60.1	40.1	50.1	98	Jul. 27	-10	Feb. 13+	6298	36.01	3.14	Oct. 5-6	56.0	7.4	Feb. 11-12	81	[illegible]3	60	69	10.5	SSW	*40	WSW	Nov. 16+	--	6.2	100	90	175	128	22	49	[illegible]	[illegible]	43	[illegible]	11
IOWA																																				
Burlington	62.0	40.8	51.4	101	Jul. 27	-15	Jan. 27	6067	29.49	2.10	Aug. 29	25.3	5.7	Mar. 21-22	75	80	56	62	10.3	S	54	SW	Apr. 23+	75	5.2	138	101	126	101	9	41	[illegible]	41	48	132	[illegible]
Davenport L & D 15	60.7	42.4	51.6	99	Jul. 30+	-10	Jan. 27	6110	28.09	2.00	Oct. 28-29	30.5	8.0	Mar. 21-22	--	--	--	--	----	--	--	---	---	--	--	---	---	---	[illegible]	12	[illegible]	16	37	[illegible]	[illegible]	9
Des Moines	60.9	39.8	50.4	105	Jul. 31	-13	Jan. 27	6564	21.98	1.53	Jul. 10	25.9	5.1	Feb. 4	73	79	55	57	14.1	S	70	[illegible]	May 28	66	5.6	127	90	148	91	7	[illegible]	[illegible]	[illegible]	[illegible]	144	[illegible]
Dubuque	57.3	37.3	47.3	99	Jul. 30	-16	Jan. 27	7[illegible]09	28.07	2.47	Apr. 23-24	25.5	5.5	Mar. 21-22	--	81	59	66	----	--	--	---	---	--	5.9	107	107	151	107	12	[illegible]	11	[illegible]	74	144	[illegible]
Sioux City	61.1	37.8	49.5	107	Jul. 31	-15	Jan. 27	6928	14.72	2.24	Jul. 9-10	29.1	5.0	Feb. 3-4	68	75	52	51	15.1	SSE	66	S	Apr. 3	67	5.5	123	102	140	77	[illegible]	36	[illegible]	[illegible]	70	[illegible]	15
KANSAS																																				
Concordia	65.2	43.6	54.4	104	Aug. 26	-3	Feb. 12	5463	16.19	1.21	May 25-26	26.5	8.0	Feb. 3-4	63	72	48	50	8.4	S	47	NW	Jun. 4	68	4.6	165	98	102	78	[illegible]	51	6	[illegible]	[illegible]	[illegible]	[illegible]
Dodge City	6[illegible].0	42.5	55.3	101	Jul. 8	2	Nov. 16+	4967	17.42	2.67	May 17-18	6.6	2.5	Feb. 3-4	65	73	44	45	15.4	SSW	70	SW	May [illegible]+	75	4.6	159	101	105	[illegible]	1	[illegible]	[illegible]	[illegible]	23	131	[illegible]
Goodland	65.5	36.1	50.8	103	Aug. 25+	-3	Nov. 16+	6267	10.81	.92	Sep. 24-25	26.7	4.5	Dec. 2-3	66	72	43	47	12.7	S	*54	SSE	May 15+	--	4.7	159	105	101	[illegible]	8	[illegible]	18	[illegible]	12	[illegible]	[illegible]
Topeka CO	67.0	44.5	55.8	107	Jul. 30	-4	Feb. 12	5001	28.84	2.32	May 25-26	AP 26.9	AP 9.3	Feb. 3-4	AP 71	AP 77	AP 50	AP 53	AP 11.8	AP S	AP 57	AP NW	Jun. 4	AP 65	AP 5.2	AP 138	AP 97	AP 130	[illegible]	AP [illegible]	AP [illegible]	AP [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wichita	68.8	45.4	57.1	102	Jul. 30+	4	Feb. 12	4587	23.77	4.24	Oct. 1-2	8.9	5.0	Feb. 3-4	70	77	50	51	14.1	S	49	N	Mar. 10	71	5.0	145	95	125	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21	122	[illegible]
KENTUCKY																																				
Lexington	65.9	45.6	55.8	94	Sep. 9+	-4	Feb 12	4598	47.31	2.87	May 12-13	15.7	4.3	Feb. 10-11	79	81	56	67	11.3	S	--	---	---	--	5.8	108	108	149	[illegible]	[illegible]	[illegible]	8	[illegible]	21	[illegible]	[illegible]
Louisville	67.9	47.0	57.5	98	Aug. 3	3	Feb. 11+	4260	45.55	2.77	Oct. 6-7	8.9	3.4	Jan. 10-11	78	82	54	62	9.0	SE	56	S	Nov. 16	54	5.8	108	106	151	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]
LOUISIANA																																				
Baton Rouge	79.0	57.8	68.4	97	Aug. 22	[illegible]3	Dec. 16	1541	50.49	4.65	Apr. 9-10	T	T	Dec. 11+	85	88	55	64	8.3	N	[illegible]	---	---	--	5.7	97	141	127	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Lake Charles	7[illegible].0	60.0	69.0	96	Jul. 12+	[illegible]5	Dec. 16	1406	55.33	4.45	Aug. 2-3	T	T	Apr. 12	85	88	60	70	8.2	S	*40	SE	Feb. 4	--	6.1	88	127	150	[illegible]	[illegible]	71	10	76	[illegible]	12	[illegible]
New Orleans CO	78.4	62.9	70.7	96	Aug. 22	28	Dec. 16	1170	68.37	4.67	Jan. 15-16	T	T	Apr. 13+	80	84	59	67	6.4	---	34	W	Jan. 18	60	5.5	104	138	123	[illegible]	[illegible]	74	17	[illegible]	0	[illegible]	[illegible]
Shreveport	76.7	55.7	66.2	97	Jul. 11+	17	Dec. 16	[illegible]162	47.[illegible]3	4.66	May 23-24	T	T	Dec. 3+	81	87	58	62	10.2	S	--	---	---	69	5.5	130	92	143	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37	[illegible]
MAINE																																				
Caribou	47.5	29.7	38.[illegible]	95	Jul. 10	-41	Feb. 1	9740	30.45	2.00	Aug. 15-16	146.7	14.9	Jan. 17-18	81	78	63	72	10.7	[illegible]	*52	SSE	Feb. 12	--	7.1	61	101	203	[illegible]	[illegible]	24	28	4	[illegible]	182	[illegible]
Portland	55.2	35.0	45.1	97	Aug. 5	-14	Dec. 21	7590	35.16	3.10	Oct. 31- Nov. 1	49.0	9.3	Feb. 17	84	79	60	75	9.6	S	52	SW	Mar. 17	62	5.9	111	99	155	121	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	163	[illegible]
MARYLAND																																				
Baltimore	CO 65.6	CO 49.1	CO 57.4	CO 101	Aug. 2	CO 10	Feb. 3	CO 4242	CO 47.86	CO 7.82	Aug. 12-13	12.2	2.5	Feb. 11	80	80	55	67	10.7	WNW	65	SW	May 29	60	5.4	131	113	121	109	[illegible]	27	[illegible]	CO [illegible]	CO [illegible]	CO [illegible]	CO [illegible]
Frederick	63.9	42.7	53.3	99	Aug. 5+	1	Feb. 4	5240	37.6[illegible]	5.56	Aug. 12-13	16.3	4.6	Nov. 19	--	--	60	--	----	--	--	---	---	--	---	---	---	---	108	6	9	2	[illegible]	[illegible]	121	[illegible]
MASSACHUSETTS																																				
Blue Hill Obs.	57.1	40.1	47.8	98	Aug. 5	-7	Dec. 21+	6819	59.5[illegible]	9.93	Aug. 18-19	32.7	6.1	Mar. 4	80	78	59	72	15.1	WNW	56	SSW	Feb. 11	56	5.6	122	104	139	[illegible]	10	24	[illegible]	[illegible]	29	126	4
Boston	59.0	43.7	51.4	100	Aug. 5	-2	Dec. 21	58[illegible]3	56.50	8.40	Aug. 18-19	19.1	4.2	Mar. 4	73	71	56	66	14.4	WNW	54	NW	Jan. 7	67	5.7	119	104	142	124	5	[illegible]	[illegible]	28	[illegible]	[illegible]	[illegible]

See reference notes at end of table.

Table 10—Continued

ANNUAL CLIMATOLOGICAL DATA

State and Station	Temperature							Degree days	Precipitation						Relative humidity				Wind					Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet, Hail									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date		Total	Greatest in 24 hrs.	Date	Total	Greatest in 24 hrs.	Date	1:30a E.S.T.	7:30a E.S.T.	1:30p E.S.T.	7:30p E.S.T.	Average hourly speed	Prevailing direction	Speed	Direction	Date			Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Sleet, Hail 1.0 or more	Thunderstorms	Heavy fog	90° and above	32° and below	32° and below	Zero and below
MASSACHUSETTS (Cont'd.)																																				
Nantucket	54.5	42.6	48.6	87	Aug. 2	3	Dec. 21	6199	36.42	2.73	Oct. 15-16	28.1	8.0	Apr. 3-4	86	83	73	84	14.4	WNW	53	†SW	Mar. 27	55	6.5	101	83	181	116	9	24	91	0	26	110	0
Pittsfield	54.9	35.7	45.3	94	Aug. 5+	-17	Dec. 21	7571	44.75	2.92	Aug. 18-19	86.6	15.8	Apr. 3-4	--	--	--	--	----	---	--	---	---	--	---	---	---	---	146	28	---	---	8	73	147	13
MICHIGAN																																				
Alpena	53.2	37.4	45.3	99	Aug. 21	-7	Feb. 4	7610	22.41	1.65	Nov. 2-3	80.8	8.0	Nov. 3	--	77	64	70	10.5	---	45	SW	Nov. 17	54	6.4	79	109	177	135	28	33	16	12	87	154	5
Detroit	59.9	42.7	51.3	100	Jul. 27	1	Feb. 12	5968	26.23	1.56	Oct. 5-6	29.6	3.8	Mar. 25-26	77	77	56	63	9.9	W	57	N	Jul. 27+	57	6.2	93	115	157	119	9	40	7	32	53	127	0
Detroit (Willow Run)	60.5	41.4	51.0	100	Jul. 27	-3	Jan. 29	6061	27.86	1.86	Nov. 2-3	28.3	4.8	Nov. 18-19	78	80	53	64	11.2	SW	*52	SW	Mar. 22	--	6.1	98	112	155	107	12	35	21	38	48	136	1
East Lansing	59.7	40.5	50.1	99	Aug. 21+	0	Feb. 3	6309	30.21	2.23	Jul. 15	40.0	5.0	Nov. 18-19	--	79	55	--	5.4	SW	29	SW	Mar. 22	57	---	---	---	---	122	15	33	3	34	53	139	1
Escanaba	51.8	35.9	43.9	100	Aug. 21	-7	Jan. 27	8044	23.23	1.17	Oct. 6-7	65.5	7.7	Nov. 28-29	78	80	67	71	10.4	---	50	NW	Mar. 22	52	6.3	91	104	170	128	51	37	14	3	94	154	17
Grand Rapids CO	59.3	42.4	50.9	99	Aug. 19	3	Jan. 28+	6121	25.67	3.63	Aug. 29-30	79.5	6.5	Jan. 22-23	AP 81	AP 83	AP 59	AP 67	AP 9.4	AP W	AP 43	AP W	Nov. 16	AP 55	AP 6.5	AP 89	AP 100	AP 176	124	25	38	12	30	49	128	0
Marquette	51.6	36.5	44.1	95	Aug. 19	-1	Jan. 28	8062	31.90	2.22	May 28-29	107.4	9.8	Mar. 22	--	75	64	68	8.4	---	36	SW	Nov. 16	50	7.1	69	90	206	172	36	34	9	11	100	155	5
Muskegon	57.5	39.7	48.6	95	Jul. 27	-3	Feb. 4	6616	30.27	2.16	May 23-24	109.0	7.6	Nov. 28-29	--	79	61	67	----	---	--	---	---	--	6.3	99	87	179	135	36	38	16	20	55	140	1
Sault Ste. Marie	51.0	32.5	41.8	93	Aug. 18	-15	Jan. 27	8743	27.92	2.23	Jul. 15	111.0	10.6	Mar. 22-23	84	84	66	74	9.3	WNW	44	W	Mar. 12	45	6.8	80	82	203	170	42	32	37	8	115	168	24
MINNESOTA																																				
Duluth CO	48.7	29.1	38.9	91	Aug. 19+	-30	Dec. 19	9718	39.42	4.10	Sep. 16-17	107.6	11.1	Dec. 3-4	AP 80	AP 83	AP 63	AP 68	AP 13.1	AP NW	AP 53	AP NE	Dec. 3	AP 57	AP 6.5	AP 89	AP 100	AP 176	130	34	AP 43	AP 53	3	129	179	54
International Falls	48.1	24.3	36.2	95	Aug. 18	-41	Dec. 19	10743	32.20	3.02	Sep. 17-18	102.0	11.4	Feb. 19-20	78	79	60	64	----	---	--	---	---	--	6.4	95	95	175	152	30	40	18	8	133	196	95
Minneapolis-St. Paul	55.2	35.8	45.5	100	Jul. 28+	-21	Dec. 19+	8051	21.11	4.07	Jul. 7-8	46.2	4.6	Dec. 3-4+	74	80	58	60	12.3	SE	48	WSW	Apr. 20	55	5.5	127	99	139	115	15	36	9	31	105	152	39
Rochester	55.5	33.9	44.7	100	Jul. 31+	-23	Jan. 27	8179	20.32	1.30	Jul. 8	39.0	10.6	Dec. 25-26	79	82	59	64	10.2	SE	--	---	---	--	5.6	128	83	154	104	9	38	8	31	97	161	39
St. Cloud	52.8	30.4	41.6	98	Jul. 28+	-30	Dec. 19	9099	27.96	2.11	Aug. 25-26	45.6	5.8	Dec. 3-4	80	83	60	65	8.3	WNW	*60	S	Aug. 3	--	5.8	119	90	156	117	16	48	19	19	118	173	65
MISSISSIPPI																																				
Jackson	76.6	53.5	65.1	97	Sep. 20	16	Dec. 16	2326	45.41	3.77	Apr. 12-13	T	T	May 14	81	87	53	61	7.6	S	56	NW	Mar. 25	61	5.3	121	117	127	100	0	66	6	94	0	46	0
Meridian	77.1	52.3	64.7	97	Sep. 21+	17	Dec. 16	2398	41.41	2.93	Aug. 30	.0	.0	----	86	90	54	62	----	---	--	---	---	--	5.1	127	125	113	82	0	52	18	100	0	61	0
Vicksburg CO	75.3	56.9	66.1	95	Sep. 9	21	Dec. 16	2093	47.85	3.05	Feb. 4-5	T	T	Dec. 5+	--	--	--	--	8.2	SW	35	W	Mar. 21+	68	5.4	118	117	130	88	0	55	8	54	0	27	0
MISSOURI																																				
Columbia	66.1	44.7	55.4	100	Jul. 28	-5	Feb. 11	4824	37.36	4.05	Oct. 4-5	11.7	3.2	Mar. 24-25	73	78	53	58	9.9	SSE	49	NW	Nov. 16	65	5.1	137	107	121	89	4	48	4	51	28	111	4
Kansas City	66.5	47.1	56.8	102	Jul. 30+	0	Feb. 12+	4711	30.66	2.61	May 11-12	24.8	5.0	Mar. 21+	66	73	51	51	10.9	S	54	SW	May 6	66	5.2	137	97	131	83	7	45	7	60	31	108	2
St. Joseph	65.0	42.5	53.8	105	Jul. 30	-8	Feb. 12	5544	28.21	4.76	Jun. 24-25	22.6	9.0	Feb. 3-4	--	--	--	--	----	---	--	---	---	--	---	---	---	---	83	7	51	9	60	39	131	7
St. Louis CO	66.9	49.0	58.0	98	Sep. 9	-3	Feb. 11	4302	32.96	2.59	Sep. 22-23	7.1	2.7	Mar. 25	AP 70	AP 76	AP 52	AP 56	11.2	SW	49	SW	Oct. 6	61	5.6	124	107	134	98	3	58	1	57	23	94	1
Springfield	66.8	45.3	56.1	98	Jul. 29	0	Feb. 11	4510	28.61	2.60	Feb. 18-19	10.3	3.1	Jan. 18	78	83	55	63	13.3	SSE	56	NW	Jul. 23+	67	5.4	122	117	126	90	4	54	16	44	22	106	1
MONTANA																																				
Butte	49.6	22.1	35.9	92	Jul. 16	-34	Nov. 15	10602	12.75	.95	Jun. 29	73.7	9.0	Dec. 23	--	--	--	--	----	---	--	--	---	--	---	---	---	---	127	33	---	---	7	96	241	63
Billings	56.5	33.6	45.1	104	Jul. 18	-14	Dec. 18+	7800	19.89	2.48	Apr. 3-4	127.9	23.7	Apr. 4	62	68	54	50	12.1	SW	58	NW	Jul. 25	65	6.3	84	114	167	105	29	22	14	36	64	153	22
Glasgow	53.2	27.7	40.5	106	Jul. 20	-28	Mar. 5	9474	12.56	1.48	May 2-3	52.2	8.4	Apr. 4-5	69	75	52	51	9.3	ESE	*40	NW	Mar. 22	--	6.3	92	97	176	103	17	26	12	36	104	174	69
Great Falls	52.6	31.8	42.2	97	Jul. 16	-23	Nov. 13	8599	19.65	1.64	May 26-27	95.8	7.9	Apr. 2-3	61	67	51	49	14.7	SW	73	SW	Nov. 3	57	6.2	96	96	173	105	28	26	14	16	72	165	34
Havre CO	52.5	28.0	40.3	101	Jul. 16	-27	Dec. 18	9295	16.01	1.81	Apr. 3-4	70.8	22.9	Apr. 3-4	70	75	54	52	8.4	†SW	42	NW	May 8	53	6.3	101	85	179	99	16	22	6	20	90	181	55
Helena	52.5	28.0	40.3	96	Aug. 31+	-30	Mar. 25	9157	11.92	1.01	Jul. 9-10	78.6	8.7	Mar. 1-2	65	73	55	51	8.6	W	61	SW	Mar. 11	60	6.6	78	103	184	113	21	38	6	19	84	191	40
Kalispell	51.2	29.1	40.2	96	Jun. 22	-17	Mar. 5	9112	16.91	1.32	Jun. 22-23	87.0	6.5	Nov.30-Dec.1	--	--	58	--	----	---	--	--	---	--	7.0	73	83	209	138	32	17	---	10	78	198	23
Miles City	57.6	31.2	44.4	106	Jul. 20	-23	Nov. 13	8258	13.06	2.39	May 2-3	37.6	5.0	Nov. 14	--	--	--	--	9.6	NW	*46	NW	May 8	--	6.1	104	93	168	100	16	25	9	48	75	170	37

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA

Table 10—Continued

YEAR 1955

State and Station	Temperature							Degree days	Precipitation						Relative humidity				Wind					Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet, Hail									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date		Total	Greatest in 24 hrs.	Date	Total	Greatest in 24 hrs	Date	1:30a E.S.T.	7:30a E.S.T.	1:30p E.S.T.	7:30p E.S.T.	Average hourly speed	Prevailing direction	Speed	Direction	Date			Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Sleet, Hail 1.0 or more	Thunderstorms	Heavy fog	90° and above	32° and below	32° and below	Zero and below
MONTANA (Cont'd.)																																				
Missoula	53.2	29.3	41.3	98	Jun. 22	-23	Nov. 16	8834	15.82	0.97	Jul. 6-7	73.6	9.6	Dec. 15-16	70	80	58	52	6.0	W	47	NW	Dec. 26	52	7.0	76	72	217	141	24	23	18	27	79	198	17
NEBRASKA																																				
Grand Island	62.2	38.4	50.3	105	Aug. 26	-11	Feb. 12	6639	15.45	1.72	Jun. 4-5	32.7	7.4	Mar. 20-21	68	75	51	52	13.6	S	---	---	---	--	4.9	159	88	118	59	9	29	8	60	62	150	13
Lincoln	63.3	41.7	52.5	104	Aug. 26+	-7	Feb. 12	6003	18.17	2.65	Sep. 20-21	28.7	5.7	Jan. 17-18+	--	--	--	--	10.3	S	58	W	Mar. 10	72	4.7	162	92	111	71	10	30	1	58	54	131	6
Norfolk	61.1	36.7	48.9	105	Aug. 26+	-14	Feb. 12	7073	15.81	1.64	May 26-27	29.2	5.9	Mar. 20	--	77	52	55	----	---	---	---	---	--	5.3	132	101	132	72	10	43	0	55	69	159	19
North Platte	61.6	34.0	47.8	103	Aug. 25+	-10	Jan. 23	7211	18.10	3.61	Jun. 27	42.7	9.7	Feb. 3-4	72	81	52	54	11.7	SSE	70	S	May 2	65	5.3	131	108	126	68	13	42	7	55	61	175	26
Omaha	62.8	40.7	51.8	107	Jul. 31	-11	Feb. 12	6245	21.34	2.37	Apr. 23-24	23.7	5.7	Feb. 3-4	69	75	51	51	12.4	SSE	49	NW	Jan. 28	65	4.9	154	97	114	82	8	36	7	57	57	140	11
Scottsbluff	61.1	33.1	47.1	99	Aug. 1+	-15	Dec. 5	7227	17.73	2.33	May 25-26	57.1	7.8	Dec. 2-3	69	75	48	50	11.3	WNW	*50	NW	Jun. 9	--	5.3	131	101	133	88	15	47	10	48	54	176	21
Valentine	60.1	33.9	47.0	106	Jul. 31	-16	Feb. 24	7486	13.73	1.96	May 25-26	29.5	6.5	Dec. 2-3	--	--	--	--	10.5	---	42	NW	Nov. 6+	73	5.4	129	108	128	78	9	39	---	52	67	170	29
NEVADA																																				
Elko	59.4	26.5	43.0	99	Jul. 17+	-18	Jan. 7	8279	9.52	.81	Dec. 24	68.5	9.2	Dec. 24	62	72	48	43	5.6	WSW	*55	NNW	May 21	--	5.3	138	87	140	78	20	17	7	48	52	221	33
Ely	58.5	25.8	42.2	93	Jul. 14	-16	Feb. 4+	8401	8.76	1.42	May 30-31	55.5	7.9	Dec. 5-6	57	64	41	39	11.6	S	56	S	Jan. 1	73	4.8	155	92	118	64	18	22	1	18	49	224	40
Las Vegas	78.5	51.0	64.8	111	Jun. 8	21	Feb. 22+	2757	5.40	1.32	Aug. 3-4	1.5	1.5	Jan. 7	31	39	24	18	10.2	SW	*54	NNW	Feb. 18	87	2.9	233	78	54	24	1	24	1	133	0	61	0
Reno	65.2	30.5	47.9	100	Aug. 2	-7	Feb. 28	6506	9.19	2.16	Dec. 22-23	29.5	5.3	Feb. 26-27	59	74	40	34	7.0	WNW	65	S	Apr. 25	82	4.0	185	87	93	51	8	10	9	55	16	200	2
Winnemucca	62.9	29.1	46.0	101	Sep. 4	-15	Jan. 4	7291	7.28	.75	Dec. 23-24+	41.9	8.4	Dec. 5-6	56	65	43	38	8.8	†W	61	SW	Dec. 23	69	4.9	154	83	128	68	16	4	3	63	21	200	19
NEW HAMPSHIRE																																				
Concord	57.4	35.0	46.2	100	Aug. 5	-20	Feb. 3	7400	31.16	1.74	Nov. 4-5	36.9	9.7	Feb. 16-17	82	78	53	69	5.6	NW	35	NW	Aug. 5	53	5.9	107	105	153	115	13	24	40	30	61	170	13
Mt. Washington	33.9	20.8	27.4	69	Aug. 22+	-36	Dec. 20	13638	69.24	5.20	Aug. 13-14	240.4	17.6	Mar. 22-23	89	87	85	88	32.6	W	133	W	Nov. 30	35	7.5	50	85	230	211	66	11	322	0	166	245	72
NEW JERSEY																																				
Atlantic City CO	60.5	47.9	54.2	93	Aug. 20	5	Feb. 3	4822	34.72	3.15	Jun. 8-9	8.4	4.2	Feb. 2	--	79	66	74	15.4	---	65	S	Aug. 13	63	5.6	113	116	136	98	3	23	29	4	11	80	0
Newark	62.7	45.6	54.2	101	Jul. 5	1	Feb. 3	5083	40.55	3.82	Aug. 12-13	19.7	3.4	Dec. 22	74	73	52	62	10.9	WNW	46	SW	Oct. 24+	--	5.7	126	94	145	116	6	24	19	32	19	99	0
Trenton	62.7	45.8	54.3	100	Aug. 2	3	Feb. 3	5028	42.73	4.76	Aug. 12-13	19.0	5.1	Feb. 1-2	--	--	--	--	9.1	†S	40	†S	Aug. 13+	64	5.5	124	109	132	117	7	40	---	31	22	96	0
NEW MEXICO																																				
Albuquerque	69.8	43.7	56.8	99	Jul. 9	9	Feb. 20	4217	6.51	1.92	Sep. 24	5.2	3.0	Jan. 15	43	53	34	29	9.0	SE	55	SE	Jun. 10	82	3.6	201	87	77	45	3	37	0	57	4	112	0
Clayton	67.8	37.9	52.9	96	Jul. 6	0	Feb. 20	5091	12.82	3.41	May 18-19	16.3	10.9	Apr. 12	--	62	34	36	----	---	--	---	---	--	3.8	195	101	69	55	3	39	1	30	9	149	1
Roswell	76.3	43.4	59.9	102	Jul. 1	10	Feb. 12	3378	8.71	2.81	Sep. 25-26	2.6	1.1	Mar. 21	47	60	31	28	9.6	---	73	W	Apr. 23	--	3.7	207	80	78	47	1	41	4	101	0	113	0
NEW YORK																																				
Albany	58.0	38.1	48.1	99	Aug. 5	-18	Feb. 3	6883	35.65	2.46	Oct. 15-16	42.3	7.2	Apr. 3-4	82	79	57	69	8.5	S	45	NW	Dec. 25+	54	6.2	98	112	155	134	13	35	18	32	66	138	10
															AP	AP	AP	AP	AP	AP	AP	AP		AP	AP	AP	AP	AP			AP	AP				
Binghamton	59.1	39.7	49.4	98	Jul. 22	-11	Feb. 3	6453	41.74	4.27	Jul. 10	50.9	7.7	Feb. 11	81	83	61	71	12.8	NW	66	W	Oct. 24	53	7.2	47	112	206	159	18	37	45	32	56	127	6
Buffalo	58.1	40.7	49.4	94	Jul. 29	-1	Dec. 20+	6378	39.79	3.11	Oct. 5-6	98.2	19.9	Nov. 28-29	80	80	62	71	13.2	SW	64	SW	Nov. 16	58	6.9	59	122	184	162	28	34	14	20	57	131	3
New York	62.8	47.5	55.2	100	Aug. 5+	1	Feb. 3	4825	46.88	7.11	Aug. 11-12	14.3	4.3	Feb. 2	71	70	53	62	13.1	---	56	†E	Oct. 14+	--	5.8	115	118	132	125	4	27	10	29	18	93	0
															a	a	a	a																		
New York CO	61.3	47.1	54.2	98	Aug. 22	0	Feb. 3	5049	42.76	6.71	Aug. 11-12	13.7	3.7	Feb. 2	68	74	59	61	12.5	†NW	61	NW	Jan. 7	61	5.4	126	116	123	116	4	28	20	19	24	95	1
New York (Central Pk)	62.5	46.8	54.7	100	Aug. 25+	0	Feb. 3	4951	39.90	4.39	Aug. 12-13	15.7	3.6	Feb. 1-2	--	74	56	63	9.4	†W	45	NW	Jan. 7	61	5.3	116	160	89	121	4	---	---	25	22	93	1
Rochester	58.1	39.6	48.9	97	Jul. 22+	-5	Feb. 5+	6616	32.03	2.44	Oct. 5-6	80.6	6.0	Mar. 26	81	80	60	71	12.5	WSW	60	W	Mar. 23	55	6.7	73	109	183	141	27	38	11	29	60	137	6
Syracuse	58.2	39.6	48.9	96	Aug. 5+	-20	Dec. 21	6649	39.94	3.60	Oct. 5-6	121.2	14.2	Mar. 27-28	78	77	59	68	10.6	WNW	54	W	Nov. 16	53	6.5	92	98	175	156	34	39	10	28	64	130	10
NORTH CAROLINA																																				
Asheville	66.9	45.5	56.2	92	Aug. 20+	3	Feb. 13	4019	31.70	1.73	Feb. 5-6	7.5	3.6	Jan. 18-19	--	--	--	--	7.9	†NW	43	NW	Feb. 11	62	5.5	110	129	126	123	4	51	59	9	6	95	0
Charlotte	73.1	50.2	61.7	99	Jul. 28+	11	Feb. 13	3050	37.35	4.84	Sep. 30-Oct. 1	8.7	4.5	Jan. 23-24	78	81	50	64	8.7	SW	46	†SW	Mar. 22	62	5.7	111	116	138	103	2	44	17	68	1	70	0

See reference notes at end of table.

Table 10—Continued

ANNUAL CLIMATOLOGICAL DATA

YEAR 1955

State and Station	Temperature							Degree days	Precipitation						Relative humidity				Wind					Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet, Hail									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date		Total	Greatest in 24 hrs.	Date	Total	Greatest in 24 hrs.	Date	1:30a E.S.T.	7:30a E.S.T.	1:30p E.S.T.	7:30p E.S.T.	Average hourly speed	Prevailing direction	Speed	Direction	Date			Clear	Partly cloudy	Cloudy	Precipitation 01 inch or more	Snow, Sleet, Hail 1.0 or more	Thunderstorms	Heavy fog	90° and above	32° and below	32° and below	Zero and below
NORTH CAROLINA (Cont'd.)																																				
Greensboro	69.2	46.9	58.1	95	Aug. 3+	11	Feb. 13+	3794	34.04	3.30	Aug. 14-15	11.2	7.3	Jan. 19	81	81	50	66	7.8	SW	42	W	Apr. 24	68	5.7	121	95	149	122	3	44	29	33	2	90	0
Hatteras CO	68.1	56.8	62.5	91	Aug. 3	22	Feb. 13	2611	52.04	4.98	Sep. 18-19	T	T	Dec. 30+	81	78	69	78	13.6	SSW	68	SE	Sep. 19+	--	5.6	120	97	148	111	0	42	9	1	1	19	0
Raleigh	70.6	48.6	59.6	98	Jul. 3	13	Feb. 13	3439	40.88	5.20	Aug. 16-17	14.4	9.0	Jan. 19	79	83	51	66	8.5	SW	*40	N	Aug. 12	64	5.6	115	113	137	105	3	50	25	42	2	83	0
Wilmington	73.3	53.0	63.2	96	Jul. 18	17	Feb. 13	2538	59.20	7.18	Sep. 18-19	T	T	Jan. 19	--	82	54	75	10.5	SW	72	NE	Aug. 11	65	5.2	129	122	114	123	0	53	16	39	0	50	0
Winston-Salem	69.3	48.3	58.8	97	Jul. 28	10	Feb. 13+	3619	37.89	2.32	Aug. 17-18	11.2	5.6	Jan. 18-19	76	78	51	63	8.8	SW	*48	SSW	Jul. 4	--	5.6	127	94	144	121	5	41	28	36	2	84	0
NORTH DAKOTA																																				
Bismarck	53.6	28.3	41.0	102	Aug. 17	-30	Dec. 19	9303	17.46	1.40	May 27-28	35.2	6.6	Nov. 14	75	81	55	57	12.3	WNW	63	W	Apr. 20	69	6.0	98	108	159	100	9	37	10	31	108	183	68
Devils Lake	48.5	26.8	37.7	100	Jul. 21	-27	Dec. 19	10361	19.29	1.70	Aug. 16-17	64.5	8.3	Nov. 22	--	83	61	64	9.1	NW	42	SW	May 3	60	6.2	100	96	169	125	21	27	16	21	128	179	92
Fargo	51.5	29.6	40.6	99	Aug. 20	-27	Dec. 19	9548	17.44	1.79	Jul. 3-4	33.4	4.5	Feb. 19-20	74	78	59	60	15.3	S	71	NW	Aug. 3	61	6.3	90	98	177	104	10	40	5	22	123	176	74
Williston	51.3	28.7	40.0	101	Jul. 20	-26	Dec. 18	9547	12.09	1.50	Apr. 19-20	32.3	3.1	Nov. 14-15	--	77	55	53	7.7	SE	36	W	Mar. 13	59	6.6	81	97	187	100	13	25	9	21	109	168	64
OHIO																																				
Akron	60.2	40.0	50.1	95	Aug. 5+	-4	Jan. 29	6181	31.35	2.00	Nov. 15-16	35.6	4.3	Nov. 19	79	80	58	69	11.3	SW	--	---	---	--	6.4	86	104	175	135	12	50	22	18	53	137	6
Cincinnati	65.2	45.6	55.4	97	Aug. 20	-1	Jan. 29	4708	47.72	3.08	Aug. 21-22	22.4	4.6	Nov. 18-19	74	78	55	62	6.1	S	45	SW	Mar. 22	62	6.4	86	101	178	134	11	60	12	39	29	103	1
Cleveland	61.7	42.8	52.3	100	Aug. 19	-1	Jan. 29	5649	39.54	3.73	May 23-24	49.6	8.4	Mar. 25-26	77	78	58	66	11.0	S	68	SW	Mar. 22	53	6.4	93	84	188	149	18	42	6	37	51	130	2
Columbus	64.1	42.5	53.3	100	Aug. 3+	-7	Jan. 28	5312	32.71	2.89	Jul. 5-6	26.7	4.6	Nov. 18-19	80	81	55	66	8.6	NNW	63	NW	Mar. 11	60	6.2	91	104	170	132	9	46	13	49	35	122	7
Dayton	62.5	43.6	53.1	96	Aug. 21	-8	Jan. 29	5414	38.74	3.29	Jul. 8-9	25.5	5.7	Mar. 25-26	76	80	57	65	10.5	WNW	61	SW	Mar. 22	63	6.3	84	109	172	128	10	47	14	27	35	120	5
Sandusky CO	60.8	44.5	52.7	98	Jul. 27	-2	Jan. 29	5543	33.70	2.06	Aug. 6	30.2	8.7	Mar. 25-26	--	--	--	--	7.6	---	55	SW	Mar. 22	60	5.5	123	115	127	120	13	41	7	30	43	115	1
Toledo	61.2	40.5	50.9	99	Jul. 4	-5	Jan. 29	6027	28.69	1.98	Aug. 6	21.9	4.0	Mar. 25-26	81	83	56	68	10.7	WSW	56	SW	Mar. 22	63	6.1	105	88	172	120	10	40	11	38	44	132	4
Youngstown	59.8	39.6	49.7	95	Aug. 5+	-3	Feb. 4+	6252	41.28	2.70	Jun. 30-Jul. 1	64.6	5.8	Nov. 19	83	83	61	72	9.6	SSW	*52	SW	Mar. 22	--	6.6	84	95	186	157	26	44	24	20	52	139	7
OKLAHOMA																																				
Oklahoma City	71.4	48.3	59.9	99	Aug. 6+	10	Feb. 11	3733	37.42	4.82	Oct. 2-3	6.9	3.2	Mar. 21+	72	78	51	52	13.6	SSE	63	SW	May 26	--	4.8	152	103	110	68	2	49	12	69	3	100	0
Tulsa	72.4	49.9	61.2	102	Jul. 30	8	Feb. 11	3504	38.97	4.08	Oct. 4-5	7.1	3.5	Mar. 21	70	77	50	53	11.5	S	43	W	Jun. 5	71	5.0	144	99	122	88	2	53	9	82	1	82	0
OREGON																																				
Astoria	55.3	41.5	48.4	93	Jun. 8	15	Nov. 14	5965	83.86	3.03	Dec. 10-11	2.6	2.0	Nov. 16	88	90	79	75	7.4	SE	*40	SSW	Feb. 28	--	7.5	59	71	235	216	1	6	46	2	5	51	0
Burns CO	58.2	30.9	44.6	99	Sep. 5	-17	Nov. 15	7731	12.14	1.20	Jul. 9	73.4	10.9	Nov. 22-23	61	70	49	41	----	---	--	---	---	--	5.6	124	86	155	87	22	16	7	32	32	194	5
Eugene	60.2	40.0	50.1	97	Sep. 5+	14	Nov. 15	5439	49.59	4.82	Dec. 20-21	6.5	5.0	Nov. 15-16	--	--	72	62	----	---	--	---	---	--	6.9	80	76	209	148	1	2	42	7	4	66	0
Meacham	50.1	31.8	41.0	95	Sep. 5	-12	Nov. 15	8832	31.61	1.38	Nov. 26-27	172.2	7.2	Mar. 30-31	--	--	69	67	----	---	--	---	---	--	6.8	94	62	209	166	55	17	32	2	68	201	6
Medford	64.7	39.9	52.3	107	Sep. 4	19	Mar. 20+	5063	19.91	3.05	Dec. 21-22	16.2	6.5	Nov. 15-16	72	85	65	47	4.8	WNW	*35	SSE	Jan. 17	--	5.9	111	89	165	93	5	6	51	42	0	93	0
Pendleton	60.7	39.6	50.2	103	Jul. 14+	-6	Nov. 15	5939	13.76	1.03	Nov. 26-27	31.3	3.0	Feb. 26	61	69	54	48	10.1	W	*61	WSW	Dec. 22	--	6.1	110	80	175	117	13	8	35	33	26	114	2
Portland CO	59.5	44.6	52.1	97	Jun. 9	15	Nov. 15	4884	50.24	2.39	Dec. 20-21	10.8	4.0	Nov. 17-18	AP 80	AP 87	AP 72	AP 63	AP 7.9	AP ESE	AP 56	AP S	Feb. 28	AP 36	AP 7.4	AP 66	AP 69	AP 230	163	6	AP 6	AP 25	6	8	34	0
Roseburg	62.8	40.0	51.4	102	Sep. 4	15	Nov. 15	5065	38.03	4.03	Dec. 25-26	5.9	3.3	Nov. 13	--	--	68	56	4.9	---	33	SE	Jan. 17	48	6.7	84	78	203	149	2	2	35	15	0	75	0
Salem	60.7	39.9	50.3	100	Sep. 4	9	Nov. 15	5397	45.90	2.84	Oct. 8-9	7.3	4.0	Nov. 16	83	90	71	61	8.2	S	*37	SW	Dec. 22	--	7.0	77	76	212	150	2	4	29	9	4	73	0
Sexton Summit CO	53.4	37.7	45.6	97	Sep. 4	11	Nov. 15	7216	38.62	2.80	Dec. 20-21	132.8	9.5	Jan. 15-16	--	--	75	68	----	---	--	---	---	--	5.7	133	66	166	148	47	3	181	4	38	136	0
PENNSYLVANIA																																				
Allentown	61.7	41.4	51.6	100	Aug. 5+	-2	Feb. 3	5818	42.45	4.79	Aug. 12-13	21.9	3.6	Feb. 2	81	80	55	67	10.2	WSW	58	WSW	May 29+	--	5.9	106	114	145	114	8	28	30	29	30	128	1
Harrisburg	62.7	44.3	53.5	100	Aug. 5	3	Feb. 3	5250	34.45	3.35	Aug. 12-13	25.1	4.6	Nov. 19	71	72	50	59	7.6	W	68	W	Mar. 7	63	6.0	107	104	154	113	10	25	24	34	27	110	0
Philadelphia	64.4	46.5	55.5	100	Aug. 6+	5	Feb. 3	4715	33.03	4.81	Aug. 12-13	16.1	3.7	Feb. 1-2	75	74	51	64	10.0	NNW	67	E	Aug. 13	61	6.0	100	121	144	108	5	27	27	33	16	92	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA

Table 10—Continued

YEAR 1955

State and Station	Temperature: Averages: Daily maximum	Daily minimum	Monthly	Extremes: Highest	Date	Lowest	Date	Degree days	Precipitation: Total	Greatest in 24 hrs	Date	Snow, Sleet, Hail: Total	Greatest in 24 hrs	Date	Relative humidity: 1:30a E.S.T.	7:30a E.S.T.	1:30p E.S.T.	7:30p E.S.T.	Wind: Average hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Date	Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Sleet, Hail 1.0 or more	Thunderstorms	Heavy fog	Max temp: 90° and above	32° and below	Min temp: 32° and below	Zero and below
PENNSYLVANIA (Cont'd.)																																				
Pittsburgh	61.4	42.0	51.7	95	Aug. 3	-7	Feb. 4	CO 4874	34.88	1.93	Aug. 13+	27.3	4.6	Nov. 19	77	79	57	65	10.4	WSW	41	WSW	Mar. 22	51	6.5	79	114	172	137	10	34	12	15	39	125	6
Reading CO	63.4	45.9	54.7	102	Aug. 2	3	Feb. 3	4973	43.96	5.26	Aug. 12-13	19.1	4.0	Feb. 2	--	74	--	--	10.6	NW	56	E	Aug. 13+	56	6.1	95	115	155	114	6	28	12	34	22	94	0
Scranton	59.3	40.7	50.0	98	Jul. 22	-4	Feb. 3	6210	37.04	4.58	Aug. 18-19	25.9	4.4	Feb. 11	--	--	--	--	7.0	---	50	SE	Oct. 14	49	6.3	90	112	163	129	7	33	10	21	51	126	3
Williamsport	61.9	40.9	51.4	100	Aug. 5+	-5	Feb. 3	5889	37.46	4.38	Oct. 14	37.6	4.7	Feb. 11-12	--	80	53	64	----	---	--	---	---	--	6.2	87	122	156	141	14	---	---	35	35	135	2
RHODE ISLAND																																				
Block Island	56.3	43.8	50.1	91	Jul. 22	2	Dec. 21	5849	37.49	6.63	Oct. 15-16	14.6	2.7	Dec. 22	--	81	69	--	----	---	--	---	---	--	5.9	111	100	154	113	7	14	59	1	29	102	0
Providence	59.1	41.2	50.2	96	Jul. 5	-3	Dec. 21+	6067	51.71	5.47	Aug. 18-19	18.4	3.7	Feb. 1	78	75	56	70	10.0	SW	*44	S	Feb. 7	60	5.5	129	98	138	117	5	29	25	13	29	121	3
SOUTH CAROLINA																																				
Charleston CO	73.6	59.2	66.4	95	Aug. 19	22	Feb. 12	1807	40.48	4.48	Sept. 4-5	T	T	Dec. 12+	AP 87	AP 85	AP 54	AP 76	10.0	AP NNE	47	N	May 11	69	5.8	114	100	151	96	0	62	6	25	0	14	0
Columbia	76.2	51.5	63.9	100	Jul. 3	14	Dec. 17	2559	31.46	2.92	Apr. 13-14	1.7	1.7	Jan. 23-24	84	86	49	67	7.6	SW	37	W	Feb. 11	73	5.5	125	108	132	99	1	55	16	81	0	64	0
Florence	75.0	52.4	63.7	97	Jul. 18+	11	Dec. 17	2508	35.91	2.30	Apr. 13-14	.3	.3	Jan. 23	--	82	48	66	----	---	--	---	---	--	5.3	130	109	126	105	0	55	18	62	0	51	0
Greenville	71.1	51.0	61.1	97	Aug. 6+	12	Feb. 13	3049	41.59	3.05	Feb. 5-6	1.1	1.1	Jan. 18-19	73	77	50	59	9.9	ENE	63	NW	Mar. 22	64	5.7	118	103	144	115	1	55	24	42	0	56	0
Spartanburg	71.2	51.0	61.1	96	Jul. 28	13	Feb. 13	3054	44.11	3.11	Feb. 5-6	4.7	3.0	Jan. 23	--	--	--	--	8.3	---	46	WNW	May 14+	--	--	--	---	---	107	2	51	19	40	1	62	0
SOUTH DAKOTA																																				
Huron	57.8	32.9	45.4	105	Jul. 31	-24	Dec. 19+	[illegible]182	14.48	2.59	May 26-27	46.0	10.7	Dec. 2-3	74	81	55	56	13.0	SSE	73	SE	Apr. 3	69	5.6	109	120	136	89	13	46	5	48	94	167	45
Rapid City	59.2	33.5	46.4	102	Aug. 3+	-14	Nov. 16	7586	15.53	1.97	Sep. 19-20	40.2	5.1	Feb. 9	66	68	50	52	11.2	NNW	60	W	Dec. 23	59	5.6	117	106	142	94	14	42	8	47	67	161	27
Sioux Falls	58.4	34.0	46.2	103	Aug. 25	-21	Dec. 19+	7897	18.16	2.13	May 26-27	43.7	10.9	Dec. 3	68	72	48	51	12.3	SSE	*60	W	Jul. 28	--	5.4	127	110	128	78	14	41	8	46	86	162	38
TENNESSEE																																				
Bristol	68.0	45.3	56.7	95	Aug. 21	-2	Feb. 13	4243	41.30	2.21	Mar. 17-18	19.9	9.7	Jan. 18-19	--	85	54	63	----	---	--	---	---	--	6.1	92	118	155	127	6	40	22	34	11	97	1
Chattanooga	72.1	49.1	60.6	98	Sep. 21	13	Feb. 13	3286	50.35	3.32	Feb. 5-6	T	T	Dec. 9+	83	86	53	63	6.3	SSW	50	SW	Apr. 24	64	5.9	108	105	152	115	0	63	26	59	1	80	0
Knoxville	70.4	49.1	59.8	97	Aug. 20+	6	Feb. 13	3537	41.10	2.10	Oct. 7-8	6.2	2.8	Jan. 19	76	82	53	61	7.3	NE	56	SW	Jan. 13	57	5.9	106	105	154	109	2	41	24	54	3	79	0
Memphis	72.5	52.0	62.3	97	Sep. 8+	11	Feb. 11	3103	56.36	3.69	May 27	.3	.2	Jan. 18-19	77	81	55	62	10.0	S	47	W	Oct. 28	68	5.6	119	111	135	110	0	58	5	71	3	68	0
Nashville	70.9	49.4	60.2	98	Sep. 9+	8	Feb. 13+	3607	45.43	4.65	Mar. 20-21	6.7	3.5	Jan. 18-19	80	85	55	64	6.9	S	52	W	Apr. 24	65	5.7	110	116	139	115	3	64	7	74	6	85	0
Oak Ridge	69.5	46.8	58.2	96	Aug. 4	5	Feb. 13	3848	56.09	3.45	Dec. 3-4	6.2	2.7	Jan. 18-19	--	--	--	--	4.4	†[illegible]W	35	SW	Mar. 22	--	6.0	110	93	162	120	3	56	36	46	2	87	0
Oak Ridge Area Stn.	68.9	48.5	58.7	---	---	5	Feb. 13	3705	51.90	2.47	Jan. 22-23	----	---	----	--	--	--	--	4.7	ENE	--	--	---	--	---	---	---	---	113	---	---	---	---	3	77	0
TEXAS																																				
Abilene	77.9	53.1	65.5	103	Aug. 9	16	Feb. 20	2439	22.68	2.83	Sep. 24-25	2.4	2.4	Jan. 9	61	71	43	41	13.0	SSE	58	S	Jun. 29	72	4.4	172	96	97	53	1	46	2	118	0	60	0
Amarillo	71.7	43.0	57.4	101	Jun. 24	4	Feb. 20	4014	13.71	1.61	Sep. 24-25	2.7	1.8	Dec. 5	55	64	36	36	13.7	SW	63	N	Oct. 23	78	4.4	174	97	94	53	1	38	17	55	6	117	0
Austin	80.7	58.1	69.4	102	Aug. 9+	23	Dec. 16	1616	22.54	1.74	Feb. 4-5	T	T	Nov. 8+	73	82	51	50	10.6	S	42	N	Jul. 13+	64	5.4	109	127	129	69	0	37	15	143	0	23	0
Brownsville	82.9	66.1	74.5	95	Aug. 25+	35	Feb. 12	465	18.86	3.61	Sep. 5-6	.0	.0	----	86	88	60	72	12.7	SE	42	NW	Jan. 18	59	5.8	98	146	121	67	0	19	28	112	0	0	0
Corpus Christi	81.7	63.6	72.7	102	Apr. 23	31	Jan. 24	840	21.87	7.68	Sep. 6-7	.0	.0	----	8[illegible]	90	61	72	12.4	SSE	46	N	Oct. 7	69	5.7	102	131	132	57	0	25	19	116	0	3	0
Dallas	77.8	55.9	66.9	104	Jul. 14	17	Feb. 11	2[illegible]95	22.41	1.84	May 19-20	T	T	Nov. 30+	68	79	51	51	11.6	SSE	49	W	Jun. 8	67	4.8	142	114	109	65	0	37	2	118	0	42	0
Del Rio	82.2	58.1	70.2	105	May 24	21	Feb. 12	1475	10.66	1.18	May 11	T	T	Nov. 8+	--	77	50	42	10.2	---	49	S	Jul. 1+	66	4.9	146	112	107	52	0	25	11	156	0	17	0
El Paso	76.7	51.0	63.9	103	Jun. 8	20	Jan. 24+	2417	6.70	1.76	Jul. 20-21	.8	.8	Mar. 27	38	48	30	25	12.2	N	56	NW	Apr. 23	83	3.7	204	74	87	37	0	30	2	84	0	55	0
Fort Worth	77.6	55.4	66.5	103	Aug. 23+	17	Feb. 11	2340	25.16	2.80	May 18-19	T	T	Nov. 30+	67	78	48	49	12.2	S	*55	SE	May 15	--	4.7	152	110	103	68	0	47	5	114	0	47	0
Galveston CO	75.3	65.4	70.4	94	Aug. 25+	30	Feb. 11	1097	34.09	2.64	May 18	.0	.0	----	AP 81	AP 84	AP 70	AP 75	12.3	AP S	50	NW	Mar. 21	65	AP 5.7	AP 92	AP 148	AP 125	94	0	AP 54	AP 36	11	0	1	0
Houston CO	78.[illegible]	62.[illegible]	70.5	98	Jul. 11	25	Feb. 11	1231	41.0[illegible]	2.95	Jul. 22-23	T	T	Jul. 11	[illegible]3	86	57	66	9.8	S	56	NE	Jul. 11	65	6.0	83	139	143	95	0	68	16	82	0	6	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA

Table 10—Continued

State and Station	Temperature							Degree days	Precipitation						Relative humidity				Wind					Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet, Hail									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date		Total	Greatest in 24 hrs	Date	Total	Greatest in 24 hrs	Date	1:30a E.S.T.	7:30a E.S.T.	1:30p E.S.T.	7:30p E.S.T.	Average hourly speed	Prevailing direction	Speed	Direction	Date			Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Sleet, Hail 1.0 or more	Thunderstorms	Heavy fog	90° and above	32° and below	32° and below	Zero and below
TEXAS (Cont'd.)																																				
Laredo	86.1	63.4	74.8	105	Jun. 25+	31	Feb. 12+	857	9.61	1.18	Nov. 8-9	T	T	May 12	70	81	49	45	10.9	SE	*43	NE	Mar. 25	--	5.[illegible]	121	130	114	52	0	24	14	189	0	3	0
Lubbock	74.0	45.4	59.7	10[illegible]	Jun. 24	6	Feb. 20	3455	16.8[illegible]	2.48	Oct. 1-2	5.6	2.5	Jan. 9	61	72	42	41	14.3	S	*63	NE	Jun. 8	--	4.1	185	102	78	51	3	39	7	76	0	104	0
Midland	77.6	50.8	64.2	104	Jun. 25	11	Jan. 10	2503	9.77	1.10	Jul. 18-19	6.3	5.9	Jan. 9	53	65	36	33	9.4	SSE	*40	NNE	Jun. 8	--	4.1	183	88	94	42	1	34	10	106	0	64	0
Port Arthur	78.2	59.8	69.0	97	Jul. 11	24	Dec. 16	1398	51.47	4.19	Aug. 2-3	.0	.0	----	87	89	62	74	11.2	N	50	NW	Mar. 21	62	5.9	85	137	143	99	0	76	40	72	0	9	0
San Angelo	78.7	53.9	66.3	103	Aug. 9	20	Feb. 22+	2178	12.87	2.68	Jun. 28-29	1.5	1.5	Nov. 8	57	70	41	37	11.1	S	*57	NNE	Jun. 8	--	4.3	172	108	85	43	1	43	5	116	0	45	0
San Antonio	81.4	58.9	70.2	101	Aug. 9+	22	Feb. 12	1431	18.18	2.14	May 10-11	T	T	Nov. 8+	71	79	48	46	9.2	SSE	57	NE	Jun. 8+	69	5.3	120	124	121	68	0	38	13	144	0	16	0
Victoria	80.8	61.5	71.2	98	Aug. 28+	28	Dec. 16	1111	24.86	1.86	Aug. 13-14+	T	T	Mar. 31	--	87	56	65	10.1	SSE	‡57	W	Mar. 31	--	5.8	91	149	125	90	0	47	18	118	0	7	0
Waco	78.5	56.3	67.4	103	Aug. 9	20	Dec. 16	1995	29.18	2.69	Mar. 20-21	T	T	Nov. 8+	72	83	53	52	12.1	S	*60	W	Mar. 31	--	5.1	129	112	124	71	0	55	7	119	0	30	0
Wichita Falls	76.6	51.6	64.1	105	Aug. 9	16	Feb. 11	2840	28.63	4.49	Sep. 24-25	4.0	4.0	Jan. 9-10	63	72	45	46	11.2	SE	*46	NW	Jun. 3	--	4.3	177	106	82	62	2	49	4	112	0	76	0
UTAH																																				
Milford	63.9	31.8	47.9	102	Jul. 14	-19	Feb. 11	6801	5.95	.78	Aug. 18-19	30.0	6.2	Feb. 2	--	69	43	38	---	--	--	---	---	--	4.4	168	98	99	60	10	41	7	57	28	186	25
Salt Lake City	61.8	37.0	49.4	102	Jul. 15	-14	Nov. 16	6507	13.63	.77	Apr. 2-3	90.2	10.7	Apr. 2-3	62	69	47	46	8.9	SSE	54	S	Dec. 25+	65	5.4	137	86	142	95	26	19	12	57	38	153	5
VERMONT																																				
Burlington	54.3	36.2	45.3	97	Jul. 22	-23	Feb. 3	7751	42.67	3.59	Aug. 17	71.0	9.4	Feb. 12+	77	74	58	67	9.9	S	54	N	Aug. 5	52	6.9	67	104	194	146	26	34	19	15	86	151	18
VIRGINIA																																				
Lynchburg	66.5	46.2	56.4	95	Aug. 6+	7	Feb. 12	4188	36.50	2.63	Aug. 17-18	12.0	4.5	Jan. 10-11	--	77	52	63	7.9	†S	42	W	Mar. 22	62	5.6	122	99	144	118	3	41	36	28	7	96	0
Norfolk	68.5	50.8	59.7	97	Aug. 2+	17	Feb. 13+	3498	40.29	4.47	Aug. 12	14.7	5.3	Jan. 19	80	79	57	72	10.4	SW	54	W	Mar. 22	65	5.5	128	96	141	112	4	39	22	32	7	69	0
Richmond	68.8	47.1	58.0	97	Aug. 6+	10	Jan. 31+	3950	47.93	8.79	Aug. 12	10.7	7.6	Jan. 11	81	81	54	69	7.7	SW	56	NW	Jul. 23	61	5.5	125	104	136	114	3	34	25	41	6	93	0
Roanoke	67.3	46.1	56.7	98	Jul. 28+	6	Feb. 12	4184	33.96	2.04	Aug. 17-18	17.4	5.6	Jan. 10-11	75	76	51	62	7.4	SE	--	---	---	--	5.8	111	102	152	105	7	48	24	43	10	93	0
WASHINGTON																																				
Olympia	57.1	38.1	47.6	97	Jun. 9	-1	Nov. 15	6[illegible]75	57.87	2.71	Nov. 2-3	39.5	10.2	Dec. 18	81	88	72	62	7.2	SSW	*38	S	Dec. 24	--	7.7	51	73	241	183	9	5	79	3	5	98	1
Seattle-Tacoma	55.2	40.6	47.9	96	Jun. 9	6	Nov. 15	6157	46.61	2.58	Feb. 7	25.5	4.7	Dec. 18	84	90	78	68	11.8	SW	*51	SW	Dec. 22	--	7.7	48	68	249	175	10	7	56	1	7	62	0
Seattle CO	56.7	44.3	50.5	100	Jun. 9	13	Nov. 15	5280	35.59	2.29	Nov. 2-3	13.4	5.6	Dec. 18-19	AP 78	AP 85	AP 71	AP 62	9.6	†S	61	SW	Feb. 28	46	7.5	57	75	233	170	4	4	---	1	4	25	0
Spokane	54.1	35.0	44.6	98	Jul. 14	-11	Nov. 15	7751	19.78	1.06	Nov. 18-19	80.5	6.6	Nov. 23	68	76	60	53	8.0	SW	54	SW	Mar. 22	54	6.5	94	75	196	121	29	8	49	17	57	171	7
Stampede Pass CO	41.5	29.8	35.7	83	Aug. 6	-5	Nov. 15+	10621	118.52	5.18	Dec. 10-11	606.4	20.7	Mar. 1-2	--	93	87	85	---	--	--	---	---	--	7.6	63	54	248	226	111	6	272	0	138	219	5
Tatoosh Island CO	50.7	42.9	46.8	82	Jun. 9	19	Nov. 12	6546	78.14	4.38	Nov. 2-3	2[illegible].3	4.7	Nov. 17	86	87	83	82	14.3	E	72	E	Dec. 18	33	8.0	38	77	250	208	8	5	54	0	4	18	0
Walla Walla CO	60.9	42.3	51.6	104	Jul. 14+	1	Nov. 15	5577	17.00	1.34	Oct. 9-10	32.1	4.1	Dec. 15-16	--	--	55	--	5.9	--	34	SW	Mar. 22	56	6.0	109	88	168	121	14	6	21	39	30	96	0
Yakima	59.9	34.2	47.1	103	Jul. 14	-3	Nov. 15	6847	11.[illegible]9	1.27	Dec. 20-21	52.7	7.4	Dec. 18-19+	69	7[illegible]	52	47	6.3	W	*48	SW	Dec. 22	--	6.0	110	87	168	73	17	9	[illegible]5	32	39	171	2
WEST VIRGINIA																																				
Charleston	66.7	44.6	55.7	97	Aug. 4+	1	Feb. 12	4505	38.14	2.52	Mar. 4-5	19.3	4.9	Feb. 11	80	83	53	63	7.1	SW	*46	NW	Mar. 11	--	6.6	74	112	179	144	7	43	99	33	18	113	0
Elkins	62.3	38.0	50.2	94	Aug. 3	-12	Jan. 28	5893	34.02	1.70	May 13-14	34.9	6.8	Oct. 25	--	--	--	--	6.3	WNW	*46	NW	Mar. 11	--	7.0	48	137	180	155	13	46	74	5	30	144	7
Huntington CO	68.2	45.9	57.1	100	Aug. 4	2	Feb. 13+	4212	39.24	1.92	Mar. 4-5	10.7	5.7	Feb. 11	--	--	--	--	---	--	--	---	---	--	---	---	---	---	113	3	---	---	56	13	100	0
Parkersburg	65.7	44.8	55.3	99	Aug. 4	1	Feb. 12	4682	35.59	1.87	Jun. 6-7	18.1	4.2	Feb. 11	--	--	--	--	5.7	SW	37	N	Aug. 7	51	5.9	114	84	167	132	5	48	14	34	22	107	0
WISCONSIN																																				
Green Bay	54.9	34.0	44.5	99	Aug. 21	-14	Jan. 27	8048	23.54	1.34	Jul. 30-31	33.3	7.8	Mar. 21-22	79	80	60	67	10.4	SW	67	W	Nov. 16	57	5.9	108	94	163	114	9	41	22	20	90	160	28
La Crosse	56.9	36.9	46.9	103	Aug. 21	-18	Jan. 27	7532	20.36	2.45	Jul. 8	29.7	5.9	Mar. 20-21	--	80	56	61	9.8	S	*37	W	Mar. 23	--	5.9	114	97	154	113	10	45	9	35	83	147	30
Madison CO	56.3	39.3	47.8	98	Aug. 21+	-14	Jan. 27	7146	22.99	2.38	Apr. 23-24	20.3	4.0	Mar. 21-22	AP 78	AP 79	AP 56	AP 64	AP 9.9	AP S	AP 49	AP SW	Nov. 16+	AP 67	AP 5.9	AP 113	AP 97	AP 155	105	6	AP 43	AP 17	25	79	141	14
Milwaukee	57.1	39.2	48.2	101	Jul. 26	-9	Jan. 27	6939	27.90	1.90	May 23-24	21.6	2.6	Dec. 1-2+	76	77	59	66	13.2	WNW	72	W	Nov. 16	63	5.8	117	95	153	118	6	37	30	33	68	137	12

Table 10—Continued

ANNUAL CLIMATOLOGICAL DATA

YEAR 1955

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Degree days	Precipitation: Total	Precipitation: Greatest in 24 hrs.	Precipitation: Date	Snow, Sleet, Hail: Total	Snow, Sleet, Hail: Greatest in 24 hrs	Snow, Sleet, Hail: Date	Relative humidity: 1:30a E.S.T.	Relative humidity: 7:30a E.S.T.	Relative humidity: 1:30p E.S.T.	Relative humidity: 7:30p E.S.T.	Wind: Average hourly speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Percent of possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear	Number of days: Sunrise to sunset: Partly cloudy	Number of days: Sunrise to sunset: Cloudy	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet, Hail 1.0 or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90° and above	Number of days: Max temp: 32° and below	Number of days: Min temp: 32° and below	Number of days: Min temp: Zero and below
WYOMING																																				
Casper	57.3	32.3	44.8	96	Aug. 3+	-15	Mar. 25	7857	11.26	0.55	Apr. 3	103.3	7.4	Jan. 16-17	57	68	41	42	15.6	SSW	*63	SSW	Dec. 23+	--	5.4	131	98	136	92	33	23	9	33	68	168	24
Cheyenne	57.6	32.4	45.0	95	Jul. 10	-9	Nov. 16	7539	15.46	2.68	Jun. 14-15	58.7	16.5	Apr. 11-12	61	65	42	45	13.8	WNW	67	NW	Apr. 12	61	5.3	120	127	118	101	16	53	25	7	46	164	19
Lander	57.3	30.6	44.0	96	Aug. 3	-21	Dec. 5	8119	13.07	1.02	May 24-25	111.4	19.8	Feb. 2-3	56	62	44	43	7.4	†SW	72	SW	Apr. 15	75	4.9	140	122	103	66	25	28	2	30	64	186	33
Sheridan	57.1	30.3	43.7	99	Jul. 16	-20	Mar. 5	8309	23.82	3.06	Apr. 3-4	157.8	26.7	Apr. 3-4	--	75	50	53	9.1	WNW	66	NW	Nov. 10+	60	5.8	109	120	136	128	37	36	5	34	64	182	31
PACIFIC AREA																																				
Canton Island	86.6	77.4	82.0	90	Jun. 10	73	Sep. 27+	0	17.32	4.33	Jan. 16-17	.0	.0	----	77	80	79	66	----	---	---	---	---	--	4.9	149	134	82	83	0	0	0	1	0	0	0
Hilo	78.6	64.1	71.4	86	Nov. 9+	56	Mar. 26	0	123.45	4.14	Apr. 29-30	.0	.0	----	85	88	82	68	7.6	WSW	*36	SSE	Nov. 9	36	8.0	13	106	246	292	0	14	0	0	0	0	0
Honolulu CO	78.3	69.6	74.0	83	Oct. 29+	59	Mar. 25+	0	39.30	8.07	Feb. 22-23	.0	.0	----	AP 71	AP 76	AP 72	AP 58	AP 12.1	AP ENE	AP 51	AP NE	Jan. 21	AP 62	AP 6.2	AP 76	AP 163	AP 126	141	0	AP 6	AP 0	0	0	0	0
Koror CO	87.3	74.8	81.1	92	Apr. 14	70	Jul. 29+	0	133.39	11.57	Jan. 1-2	.0	.0	----	77	89	91	81	----	---	---	---	---	--	8.4	2	96	267	286	0	37	0	27	0	0	0
Lihue	79.8	67.4	73.6	85	Oct. 19+	51	Mar. 25	4	55.68	11.20	Nov. 8-9	.0	.0	----	78	81	78	66	12.8	NE	37	S	Dec. 19	46	6.9	40	161	164	227	0	14	0	0	0	0	0
Ponape CO	86.4	73.2	79.8	92	Oct. 14+	68	Dec. 20+	0	225.94	6.98	Nov. 27-28	.0	.0	----	81	90	91	79	----	---	---	---	---	--	8.8	3	64	298	310	0	39	0	35	0	0	0
Truk (Moen Island)	85.4	76.1	80.8	88	Dec. 21+	72	Dec. 18+	0	173.77	4.45	May 12-13	.0	.0	----	80	87	88	81	----	---	---	---	---	--	9.1	2	50	313	296	0	30	0	0	0	0	0
Wake Island	83.9	74.9	79.4	90	Aug. 15+	65	Dec. 23	0	32.62	2.72	Mar. 24-25	.0	.0	----	73	78	79	70	16.0	ENE	*46	E	Mar. 24	--	5.2	126	154	85	201	0	2	0	3	0	0	0
Yap CO	87.2	75.5	81.4	94	Dec. 3	71	Jun. 29+	0	146.95	8.83	Dec.31-Jan.1, 1954-55	.0	.0	----	77	88	90	79	----	---	---	---	---	--	9.2	1	53	311	279	0	17	0	68	0	0	0
CARIBBEAN																																				
San Juan, Puerto Rico	83.4	73.6	78.5	94	Oct. 14+	65	Jan. 16	0	45.00	4.14	Aug. 6-7	.0	.0	----	AP 85	AP 81	AP 66	AP 78	AP 9.8	AP ENE	AP 43	AP W	Aug. 6	AP 73	AP 5.6	AP 83	AP 176	AP 106	183	0	46	0	27	0	0	0
ALASKA																																				
Anchorage	40.4	24.6	32.5	81	Jul. 21	-27	Dec. 10	11740	18.55	1.68	Aug. 24-25	171.6	17.7	Dec. 28-29	66	71	66	59	7.2	N	*40	NNE	Dec. 19	50	7.4	71	53	241	122	42	0	32	#10	134	217	48
Annette	47.8	37.0	42.4	80	Jun. 9	1	Mar. 3	8149	150.20	5.62	Oct. 19-20	40.7	5.9	Jan. 2	83	86	78	74	13.4	SE	*55	SSE	Oct. 6	--	7.8	57	46	262	215	13	2	8	#9	31	101	0
Barrow	10.7	-.1	5.3	60	Jul. 23	-50	Feb. 17+	21699	4.53	.82	Jun. 26	20.0	1.6	Aug. 22-23	75	75	74	74	10.9	NE	36	W	Dec. 22	--	---	c 58	c 57	c 182	70	5	2	80	#0	181	346	187
Bethel	34.9	19.9	27.4	76	Jul. 21	-38	Jan. 3	13593	20.28	1.92	Jul. 24-25	62.9	5.3	Jan. 1-2	83	88	86	76	11.3	NNE	*40	SSE	Oct. 2+	--	7.8	57	45	263	181	20	0	27	#7	152	229	83
Cordova	44.1	28.7	36.4	79	Jul. 22	-12	Dec. 11	10329	70.06	4.66	Dec. 28-29	166.0	14.8	Dec. 28-29	84	--	80	75	----	---	---	---	---	--	8.1	44	54	267	202	56	0	10	#3	51	216	22
Fairbanks	33.7	13.1	23.4	93	Jul. 25	-47	Dec. 11	15090	15.86	1.52	Jun. 11-12	89.4	6.1	Dec. 12-13	70	79	72	62	4.5	N	33	W	Feb. 26	--	7.4	60	74	231	124	33	4	16	#38	172	235	141
Juneau	44.4	31.3	37.9	82	Jul. 21	-10	Dec. 26+	9790	48.89	1.32	Sep. 23-24	114.5	12.4	Dec. 27-28	80	83	75	69	8.8	ESE	47	SE	Oct. 5	32	8.2	48	37	280	227	10	0	14	#16	62	173	14
Kotzebue	25.4	11.3	18.4	79	Jul. 25	-47	Feb. 19	16899	9.60	1.25	Aug. 20-21	58.3	3.9	Dec. 16	80	84	82	78	12.9	ESE	*51	ENE	Mar. 4	--	6.9	87	63	215	118	21	0	31	#6	208	258	135
McGrath	32.5	12.9	22.7	86	Jul. 22	-52	Dec. 10	15332	19.77	2.10	Aug. 26-27	71.8	6.6	Apr. 16-17	73	82	75	64	4.1	S	*25	NNW	Dec. 22	--	7.6	59	61	245	148	25	2	9	#21	172	238	138
Nome	30.6	16.8	23.7	73	Aug. 7	-34	Dec. 31	14936	20.80	1.63	Aug. 22-23	65.6	4.0	Dec. 25-26	80	82	80	77	10.5	N	57	NE	Feb. 10	37	7.0	76	66	223	154	23	0	24	#1	190	244	103
Northway	30.0	8.6	19.3	88	Jul. 26	-57	Dec. 11	16593	7.36	.59	Jun. 10-11	58.4	7.3	Dec. 21-22	72	--	70	59	----	---	---	---	---	--	7.7	44	76	245	107	21	6	17	#26	171	257	152
St. Paul Island	37.3	29.9	33.6	56	Jul. 31	2	Apr. 4	11341	16.29	1.10	Aug. 13-14	53.6	3.4	Feb. 8-9	90	92	91	87	----	---	---	---	---	--	8.9	10	51	304	183	21	0	55	#0	80	216	0
Yakutat	43.7	30.4	37.1	84	Jul. 21	-15	Dec. 25	10109	129.07	3.51	Oct. 4-5	323.9	26.0	Mar. 19-20	89	90	85	81	9.4	ESE	*75	ESE	Oct. 23	--	8.4	32	47	286	245	72	0	21	#4	50	202	10

Data from airport unless otherwise indicated.
CO after station name indicates city office data, except where certain elements are from the airport, which are indicated by AP above each value.
* Data entered in column headed "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic recording wind instrument.
+ Also on earlier dates.
† Wind direction to 8 Compass points only.
‡ Peak gust.
# Number of days Maximum 70 F or above for Alaskan Stations.
a Computed as of 2:30a, 8:30a, 2:30p and 8:30p E.S.T.
b Computed as of noon local time.
c Sun below horizon November 18 - January 24.
d Maximum hourly average.

Table 10a

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1921-1950)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (m.p.h.)			Sunshine (percent of possible)		Annual mean number of days									
		Normal (1921-1950)					Extremes					Normal (1921-1950)			Extremes			Snow, sleet, hail			January			July			Mean hourly		Fastest mile	January	July	Sunrise to sunset			Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature		
		January		July														Mean total		Extreme																			Max.	Min.	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum	Annual	Length, yrs.	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	January	Seasonal	Maximum in 24 hours	7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	January	July				Clear	Partly cloudy	Cloudy					90° and above	32° and below	Zero and below
ALABAMA							72	112	-18							0.00	20.33																								
Anniston (1952)	599	56.6	34.9	91.2	68.2	62.5	47	105	-3	614	2820	6.09	2.58	52.20	16.25	0.02	6.98	0.9	1.8	11.0	82	65	78	83	57	67	6.8	3.9	54	50	69	143	114	108	120	*	61	6	54	51	*
Birmingham	610	55.5	34.9	90.2	69.0	62.5	60	107	-10	623	2780	6.31	2.71	53.52	20.12	.00	8.84	1.0	1.8	11.0	81	61	67	84	56	68	8.2	5.4	65	45	62	131	116	118	117	*	66	5	59	39	*
Mobile CO (1952)	10	61.4	44.8	89.8	74.0	68.1	81	103	-1	412	1529	7.94	3.07	62.23	26.67	.00	12.98	.1	.2	6.0	--	--	--	--	--	--	10.1	8.0	98	51	59	110	138	117	119	*	64	15	47	12	*
Mobile	211	62.2	43.2	89.4	72.0	67.3	14	104	11	416	1612	8.97	3.75	67.57	19.29	.05	13.36	.3	.4	3.5	88	64	78	90	64	78	11.6	7.7	--	--	--	112	127	126	124	*	86	28	75	16	0
Montgomery CO	201	59.1	41.5	90.6	72.4	66.3	c	c	c	483	1954	6.40	2.15	50.93	c	c	c	c	c	c	c	c	c	c	c	c	----	---	c	c	c	c	c	c	c	c	c	c	c	c	c
Montgomery	198	59.7	38.7	91.3	71.0	65.4	83	107	-5	517	2137	6.50	2.36	53.66	20.10	T	9.98	.2	.6	11.0	83	61	67	85	58	68	7.6	5.7	60	51	65	132	119	114	114	*	55	7	70	20	*
ARIZONA							61	127	-33							0.00	5.95																								
Flagstaff	6993	38.9	11.7	79.2	51.1	44.6	57	94	-30	1231	7525	2.60	.53	18.47	8.77	.00	3.59	17.8	69.9	22.0	75	52	54	68	35	41	----	---	--	--	--	139	132	94	87	21	37	3	2	198	9
Phoenix CO	1083	64.3	38.2	103.5	77.5	70.5	c	c	c	425	1492	.96	.06	7.12	c	c	c	c	c	c	c	c	c	c	c	c	----	---	c	c	c	c	c	c	c	c	c	c	---	---	--
Phoenix	1114	64.8	34.5	105.1	75.1	69.4	60	118	16	474	1698	1.00	.06	7.16	6.47	.00	4.98	T	T	1.0	70	40	38	53	30	23	4.3	5.8	65	76	83	228	89	48	36	0	26	1	168	21	0
Prescott	5014	50.2	20.4	90.9	61.0	55.2	13	102	-5	921	4533	3.70	.23	15.98	9.61	.00	3.08	7.7	20.2	12.4	71	61	48	57	42	32	7.1	7.9	72	70	72	184	98	83	61	5	47	3	45	132	*
Tucson	2558	63.1	36.3	99.4	73.0	67.6	15	110	16	474	1776	2.15	.21	10.66	7.93	.00	2.73	.5	1.0	3.5	65	41	36	56	33	30	6.8	7.0	59	78	74	192	93	80	47	*	39	*	147	22	0
Winslow	4880	46.2	19.2	92.6	61.8	55.0	24	104	-18	1001	4702	1.62	.29	7.83	2.72	.00	2.12	2.5	7.8	6.0	73	49	43	61	30	29	7.8	9.0	--	--	--	182	95	88	51	3	35	3	69	135	3
Yuma	199	67.2	43.3	107.7	81.5	74.7	78	123	22	318	951	.64	.01	3.39	6.25	.00	4.01	T	T	T	57	32	32	60	28	25	7.5	10.0	56	82	92	288	57	20	15	0	9	1	163	3	0
ARKANSAS							65	120	-29							0.00	12.00																								
Fort Smith	458	50.6	29.4	94.2	70.4	62.0	74	113	-15	775	3188	5.06	2.56	41.56	15.02	.05	8.58	2.1	5.3	18.3	80	64	65	81	52	55	8.2	5.7	58	49	75	144	110	111	100	2	53	6	69	54	*
Little Rock	257	51.1	32.4	92.7	71.1	62.4	76	110	-13	719	2982	5.16	2.81	47.38	18.04	T	9.58	1.9	4.5	13.0	80	65	66	83	55	61	8.3	6.3	61	45	71	136	108	121	106	1	59	10	54	41	*
Texarkana	361	56.3	35.5	94.6	71.1	65.1	13	106	-3	600	2362	5.30	2.79	50.59	15.33	.04	6.55	1.5	1.7	4.5	86	67	71	88	55	57	---	---	--	--	--	126	104	135	97	1	65	16	85	40	*
CALIFORNIA							71	134	-45							0.00	26.12																								
Bakersfield	489	57.3	36.5	101.1	67.3	65.0	49	118	13	561	2115	1.12	.01	6.36	4.61	.00	1.68	T	.1	4.0	86	70	58	47	29	19	5.0	7.0	--	--	--	206	85	74	35	*	2	19	114	24	0
Beaumont CO (1952)	2589	57.4	35.6	94.7	57.4	60.1	13	110	11	574	2840	3.67	.09	17.86	8.63	.00	4.16	1.9	2.4	7.1	63	44	44	63	26	25	8.7	6.8	--	--	--	184	95	86	49	*	9	51	83	32	0
Bishop	4108	53.6	22.2	96.9	54.1	56.0	20	109	-15	840	4222	1.12	.10	5.38	9.67	.00	3.34	5.9	13.2	9.0	--	47	39	--	19	15	---	---	--	--	--	203	86	76	28	4	13	*	100	151	1
Blue Canyon	5280	43.8	28.5	77.7	57.9	50.1	12	93	5	893	5719	9.47	.03	53.51	45.12	.00	9.31	53.7	255.1	38.5	--	65	72	--	29	30	---	---	--	--	--	174	67	124	88	42	10	69	1	107	0
Burbank	699	65.2	39.9	87.3	59.0	62.8	24	111	21	396	1808	3.06	T	13.88	13.84	.00	7.76	.4	.5	4.7	71	55	47	83	50	42	4.4	5.5	--	--	--	189	102	74	40	*	4	35	47	5	0
Eureka CO	43	53.6	40.8	60.6	52.2	52.3	69	85	20	552	4632	6.20	.09	36.15	19.49	.00	5.83	.2	.4	3.4	86	--	78	91	--	79	6.7	6.8	56	39	50	85	112	168	122	*	3	49	0	4	0
Fresno	331	53.5	35.9	100.1	64.1	63.0	68	115	17	629	2532	1.66	T	9.31	7.92	.00	2.86	.1	.1	2.5	91	74	67	53	28	16	5.3	7.8	54	46	97	222	71	72	44	*	4	31	99	15	0
Los Angeles CO	312	64.6	45.4	83.2	61.7	63.9	78	110	28	328	1451	3.37	T	14.54	15.80	.00	7.36	T	T	2.0	65	N45	57	87	N52	58	6.4	5.8	49	70	78	181	124	60	39	*	5	23	14	*	0
Los Angeles	99	63.3	43.0	74.4	60.8	60.9	19	108	23	378	2015	2.75	T	12.37	8.14	.00	4.20	T	T	T	75	56	62	86	66	69	6.0	6.2	62	--	--	137	112	116	38	0	3	53	3	1	0
Mt. Shasta CO	3544	41.4	24.1	84.8	49.5	49.3	42	103	-8	998	5913	5.39	.13	33.71	21.73	.00	4.70	34.8	103.4	37.4	85	77	76	70	37	29	---	---	--	--	--	162	93	110	90	20	11	10	21	144	*
Oakland	3	56.0	38.4	72.0	53.4	56.5	27	102	23	552	3163	3.42	.01	17.63	11.29	.00	3.21	T	T	1.0	85	74	68	88	69	62	5.8	8.2	--	--	--	141	121	103	65	*	2	19	4	7	0
Red Bluff	341	53.3	36.9	98.9	67.4	63.2	77	115	17	617	2546	4.23	.02	21.57	20.71	.00	6.12	1.8	3.0	11.4	85	70	66	50	29	18	6.7	5.7	63	48	95	214	72	79	70	1	5	8	89	16	0
Sacramento CO	25	52.1	38.3	92.0	58.6	60.9	78	114	17	614	2600	3.31	T	16.32	15.04	.00	7.24	c	c	c	--	--	--	--	--	--	c	c	c	c	c	c	c	c	58	c	c	c	51	8	0
Sacramento	17	52.4	36.2	92.0	57.2	60.0	16	---	--	642	2822	3.01	T	15.02	----	---	----	.2	.2	4.0	90	81	69	76	46	28	7.3	8.3	70	44	96	225	72	68	---	*	4	21	---	---	--
San Diego	19	64.3	45.5	75.5	63.1	62.4	84	110	25	317	1574	2.57	.01	10.86	9.26	.00	3.62	T	T	.3	73	58	66	87	68	71	5.7	6.7	53	68	67	176	113	76	44	0	3	24	1	*	0
San Francisco CO	52	55.4	44.8	64.4	53.4	56.7	84	101	27	462	3069	4.07	.01	20.51	24.36	.00	4.67	T	.2	3.7	85	N69	71	91	N71	75	7.4	11.5	51	53	68	154	116	95	69	*	2	15	1	*	0
San Francisco	8	55.8	39.9	69.2	51.5	55.6	28	104	20	530	3421	3.59	.01	17.43	12.30	.00	3.33	T	T	T	87	77	69	91	70	68	6.9	14.0	62	--	--	161	108	96	63	0	2	21	3	8	0
San Jose (1950)	95	58.0	40.5	80.8	54.5	59.3	50	106	20	487	2410	2.53	T	12.69	12.38	.00	4.56	T	T	1.0	--	--	66	--	--	50	6.6	7.1	43	54	87	210	84	71	59	*	*	23	13	14	0
Sandberg CO	4517	46.0	33.6	85.1	62.7	55.3	23	102	3	781	4243	2.85	.02	12.42	11.12	.00	4.09	10.0	27.2	38.5	--	58	59	--	25	26	---	---	--	--	--	210	83	72	41	5	5	85	21	57	0
Santa Catalina (1952)	1568	59.0	46.7	77.0	58.3	60.1	8	102	29	375	2249	2.97	T	12.88	7.81	.00	2.68	.4	.5	2.0	72	65	67	65	58	54	---	---	--	--	--	190	81	94	45	*	*	112	10	*	0
Santa Maria	238	62.7	38.0	72.6	51.7	57.1	13	104	22	453	2934	2.71	.03	13.48	5.88	T	3.07	T	T	T	81	61	62	94	66	64	8.0	6.2	--	--	--	173	114	78	47	0	2	86	4	15	0
COLORADO							68	118	-60							0.00	8.05																								
Alamosa	7538	36.3	-2.5	81.3	46.8	41.4	10	91	-50	1491	8659	1.10	.17	6.23	1.77	T	1.33	4.0	23.1	6.8	76	58	58	83	38	37	---	---	--	--	--	154	141	70	61	11	46	13	2	227	46
Colorado Springs	6173	40.9	16.6	84.8	57.6	49.1	7	100	-27	1122	6254	2.72	.22	14.26	4.88	T	3.09	3.7	24.3	5.6	53	39	45	68	34	39	11.1	10.3	90	--	--	149	117	99	83	7	57	18	15	160	7
Denver CO	5221	42.5	20.3	85.9	61.5	51.4	c	c	c	1042	5673	2.06	.50	13.43	c	c	c	c	c	c	--	--	--	--	--	--	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Denver	5292	41.7	15.6	87.2	58.3	49.8	84	105	-29	1125	6132	2.20	.50	14.20	8.57	.00	6.53	6.0	56.1	23.0	58	42	47	63	30	33	7.7	7.1	65	67	69	142	152	71	86	17	43	4	23	139	8
Grand Junction	4849	33.8	14.1	92.5	63.8	52.1	64	105	-21	1271	5796	1.20	.45	9.06	3.78	.00	2.50	5.6	21.5	17.0	78	62	60	48	28	23	4.3	6.8	66	58	76	158	117	90	74	7	40	3	51	132	5
Pueblo	4639	44.9	13.8	89.8	59.9	51.5	67	105	-31	1104	5709	1.81	.38	11.87	8.13	.00	2.95	4.1	28.6	16.3	67	44	48	68	32	35	8.0	7.8	80	75	75	156	144	65	68	9	42	4	45	149	8
CONNECTICUT							68	105	-32							0.00	12.12																								
Bridgeport	7	36.6	21.8	81.6	63.9	50.5	55	102	-20	1110	5896	4.43	2.83	42.01	18.77	.09	5.84	9.0	35.2	13.8	76	64	70	77	57	71	9.9	7.5	62	--	--	104	107	154	117	4	24	30	9	96	0
Hartford	15	35.4	18.5	83.0	62.3	49.7	c	c	c	1178	6139	3.93	2.70	42.43	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Hartford Bradley Fld.	169	36.1	17.9	85.6	62.0	50.1	51	101	-24	1178	6068	3.81	2.57	40.48	21.87	.18	12.12	10.6	39.6	19.0	73	61	67	78	55	70	8.8	7.4	70	46	62	107	110	148	127	11	27	45	10	119	3
New Haven	6	37.0	21.2	80.1	62.3	49.7	83	101	-15	1113	6026	4.12	3.00	44.99	17.08	.12	8.73	9.6	37.4	28.0	75	65	69	77	64	74	9.2	7.1	62	52	66	125	117	123	130	11	25	27	5	109	2
DELAWARE							63	110	-17							T	7.83																								
Wilmington	73	41.8	24.7	86.7	65.0	54.2	8	102	2	983	4910	5.28	2.98	44.50	12.09	.15	6.24	5.6	16.8	11.9	77	62	71	79	51	69	[illegible]	7.0	--	--	--	99	107	159	122	[illegible]	32	49	25	101	0
DIST. OF COLUMBIA																																									
Silver Hill Obs.(1953)	284	43.4	27.4	84.6	66.2	55.3	2	101	8	918	4539	5.94	2.58	43.91	9.99	.66	3.03	2.4	11.9	7.5	--	--	--	--	--	--	---	---	--	--	--	---	---	---	120	5	37	--	27	44	0
Washington CO	72	44.0	28.9	87.1	68.4	56.8	84	106	-15	884	4258	4.49	2.64	41.44	17.45	.14	7.31	c6.0	c19.5	c25.0	c73	c56	c64	c78	c52	c68	7.7	5.7	62	c46	c64	c125	c119	c121	124	6	33	c11	27	81	*
Washington Nat'l. AP	14	43.8	28.5	86.1	68.4	56.5	14	103	1	893	4333	4.75	2.44	40.48	14.31	.22	6.39	4.4	12.7	8.2	74	57	63	77	52	64	10.9	8.5	78	42	67	106	103	156	116	4	33	15	29	74	0
FLORIDA							66	109	-2							0.00	23.22																								
Apalachicola CO	13	62.2	48.1	87.4	75.1	68.8	33	102	18	352	1307	7.65	2.45	56.03	27.73	.01	11.71	sT	sT	s.2	87	70	80	84	72	76	8.3	6.7	67	57	64	139	113	113	105	0	76	23	22	3	0
Daytona Beach	31	69.3	49.6	89.8	71.7	70.5	21	102	18	245	868	7.11	2.10	51.07	19.89	.04	9.29	.0	T	T	92	61	83	90	67	83	9.2	7.7	59	--	--	88	157	120	118	0	88	33	63	4	0
Fort Myers	15	75.2	53.9	90.5	73.4	73.9	36	101	z29	124	405	9.20	1.21	53.27	z20.25	.00	10.85	.0	T	T	93	56	80	87	64	83	7.9	6.8	c90	--	--	106	154	105	120	0	96	21	104	*	0
Jacksonville CO	18	65.9	48.7	89.6	73.7	69.8	84	104	10	303	1113	7.89	1.57	52.30	23.32	T	9.86	c	c	c	--	--	--	--	--	--	c	c	c	c	c	c	c	c	122	*	c	--	61	5	0

Table 10a - Continued

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1921-1950)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (m.p.h.)			Sunshine (percent of possible)		Annual mean number of days									
		Normal (1921-1950)					Extremes					Normal (1921-1950)			Extremes			Snow, sleet, hail			January			July			Mean hourly					Sunrise to sunset							Temperature		
		January		July														Mean total		Extreme																			Max.	Min.	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum	Annual	Length, yrs.	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	January	Seasonal	Maximum in 24 hours	7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	January	July	Fastest mile	January	July	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	90° and above	32° and below	Zero and below
FLORIDA (Cont'd.)																																									
Jacksonville	24	66.3	45.4	91.4	72.7	69.3	19	---	--	331	1243	7.64	1.62	52.08	19.36	0.17	----	T	T	1.9	89	56	75	85	57	76	8.8	8.3	76	57	62	122	141	102	---	--	74	34	---	---	--
Key West CO	9	75.8	65.8	89.1	78.3	77.6	61	95	43	28	77	6.78	1.54	39.52	23.56	T	19.88	.0	hT	hT	c84	c69	c79	c78	c68	c74	10.3	8.2	91	68	68	140	157	68	113	0	58	*	28	0	0
Key West (1952)	6	75.4	65.1	89.2	77.5	77.2	c	c	c	c	c	6.75	1.50	39.16	c	c	c	c	c	c	84	70	79	77	69	74	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Lakeland CO	214	71.5	52.5	90.2	72.2	72.2	41	101	23	185	649	8.16	1.39	51.43	15.57	.00	10.12	.0	T	T	--	--	--	--	--	--	6.8	5.4	---	62	53	119	150	96	112	0	101	17	90	*	0
Melbourne (1953)	26	71.3	53.8	89.1	73.0	72.4	16	100	22	169	537	7.68	2.11	52.40	19.68	.11	8.56	.0	hT	hT	92	62	82	87	67	82	---	---	---	--	--	81	155	129	119	*	88	14	60	*	0
Miami CO	8	74.4	62.6	86.8	76.4	75.3	45	95	27	57	173	7.88	1.73	47.20	25.34	T	15.10	.0	hT	hT	--	--	--	--	--	--	13.5	10.4	132	66	65	103	155	107	133	0	72	2	6	*	0
Miami	8	77.9	58.6	91.0	74.1	75.7	16	---	--	58	178	8.33	1.65	56.41	23.02	.01	12.58	---	---	---	87	59	75	83	64	77	---	---	---	--	--	---	---	---	---	--	---	--	---	---	--
Miami Beach	9	75.5	64.4	87.6	77.4	76.6	14	98	35	43	123	7.07	1.75	42.90	18.02	.01	6.64	.0	.0	---	--	--	--	--	--	--	---	---	---	--	--	177	93	95	124	0	---	---	11	0	0
Orlando	106	73.0	50.7	91.4	72.7	72.5	13	102	26	188	650	7.85	1.32	51.23	15.87	T	9.67	.0	T	T	91	54	74	90	60	80	8.4	7.7	---	--	--	103	149	113	118	0	88	29	110	1	0
Pensacola CO	13	61.1	46.9	86.9	75.0	68.0	76	103	7	383	1435	7.59	3.84	61.60	21.43	T	17.07	T	.1	2.1	--	--	--	--	--	--	10.6	9.1	114	55	67	132	123	110	111	*	71	16	21	8	0
Pensacola	110	----	----	----	----	----	--	---	--	----	----	----	----	-----	-----	---	-----	---	---	---	83	69	77	83	69	76	---	---	---	--	--	---	---	---	---	-	---	---	---	--	--
Tallahassee	64	65.2	42.0	91.0	71.0	67.7	16	103	15	385	1519	7.87	2.38	56.66	17.88	.02	7.07	T	T	.4	88	58	74	90	64	77	6.1	4.6	---	--	--	107	131	127	114	0	80	39	86	19	0
Tampa	19	70.8	52.1	89.5	73.8	72.3	66	98	19	201	674	8.11	1.04	49.94	18.93	T	10.41	T	T	.1	87	60	74	83	62	79	8.4	7.1	84	63	61	119	157	89	114	0	85	21	64	1	0
West Palm Beach	15	75.4	58.6	89.9	74.0	75.0	17	101	31	85	248	9.12	2.20	61.72	18.26	.12	15.23	.0	T	T	86	59	76	84	64	80	10.9	7.1	---	--	--	76	161	128	135	0	79	7	90	*	0
GEORGIA							64	112	-17							0.00	18.00																								
Albany (1953)	190	62.4	40.3	93.0	71.9	67.4	65	106	-2	446	1763	5.46	2.09	49.50	20.48	.00	7.60	T	T	1.0	88	57	70	85	55	70	7.0	4.9	60	--	--	116	118	131	111	*	66	25	100	18	0
Athens	798	54.6	34.8	92.4	69.1	62.7	12	105	7	629	2800	5.17	2.94	49.94	14.98	.09	4.05	.6	1.0	5.0	--	--	--	--	--	--	---	---	---	--	--	110	110	145	116	*	52	--	58	48	0
Atlanta CO	1054	52.5	36.6	87.3	70.0	62.0	c	c	c	632	2811	5.49	2.50	47.96	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Atlanta	975	53.3	35.9	89.4	69.6	62.2	77	103	-9	632	2826	5.67	2.60	49.16	15.82	.02	7.36	.9	2.2	8.3	80	64	69	83	57	68	11.5	7.8	70	48	62	126	111	128	122	*	50	21	33	38	*
Augusta	143	58.3	39.1	91.5	71.4	65.4	82	106	3	521	2138	5.21	2.44	43.17	14.00	T	9.82	.2	.8	10.5	84	59	69	83	55	59	5.7	4.9	48	56	67	135	120	110	112	*	42	10	64	27	0
Columbus	385	58.1	36.7	91.0	70.7	64.2	10	104	10	563	2396	5.92	2.04	49.00	12.53	.30	5.32	T	T	T	89	62	75	87	59	70	---	---	---	--	--	117	102	146	113	0	61	20	77	44	0
Macon	356	60.4	38.6	93.3	71.5	66.1	56	106	7	497	2049	5.34	2.27	46.31	20.52	T	8.36	.2	.6	6.9	84	57	64	84	55	68	6.8	5.5	65	54	67	127	109	129	112	*	60	11	63	33	0
Rome	637	53.6	31.8	92.2	67.7	61.3	10	106	3	700	3138	5.83	2.86	52.96	17.37	.36	7.53	.3	.6	2.0	--	--	--	--	--	--	---	---	---	--	-	101	126	138	122	0	67	24	50	76	0
Savannah	48	62.2	42.0	90.5	72.2	66.8	85	105	8	424	1710	7.09	1.51	45.75	22.88	T	11.44	T	T	2.0	83	59	72	85	61	80	9.5	8.1	90	53	60	129	[illegible]	109	114	*	[illegible]	17	[illegible]	11	0
Thomasville (1952)	270	64.2	44.2	90.0	71.1	67.9	61	106	2	376	1472	7.02	2.24	51.86	18.83	T	9.00	---	---	---	--	--	--	--	--	--	---	---	---	--	--	---	---	---	---	-	---	---	---	---	-
Valdosta (1953)	200	65.4	41.7	92.0	70.5	67.8	6	103	18	386	1525	8.03	2.14	51.62	15.94	.05	4.85	.0	T	T	--	--	--	--	--	--	---	---	---	--	--	113	114	138	115	0	73	39	101	18	0
IDAHO							63	118	-60							0.00	7.17																								
Boise	2842	34.6	19.9	90.5	59.1	50.8	16	109	-17	1169	5890	1.35	.18	11.48	4.00	.00	1.51	6.9	21.9	13.0	82	75	74	54	34	23	9.0	9.0	61	39	88	122	98	145	90	9	16	16	40	127	2
Idaho Falls 46W CO	4933	27.6	3.8	88.1	50.3	42.3	6	99	-26	1528	8556	1.02	.36	7.69	2.74	.00	1.73	5.6	22.6	6.5	--	--	--	--	--	--	7.4	8.1	51	--	--	---	---	--	66	10	12	--	27	216	34
Idaho Falls 42NW CO	4790	25.3	-.7	87.9	48.3	41.1	5	102	-26	1634	8925	1.08	.31	7.35	1.82	.00	1.33	---	---	---	--	--	--	--	--	--	5.7	7.8	46	--	--	---	---	---	---	70	---	--	29	219	40
Lewiston	1413	37.2	24.4	90.1	60.2	52.1	9	106	-22	1060	5483	1.75	.38	13.12	4.80	T	1.73	6.0	16.3	11.9	78	72	71	63	37	25	6.5	5.7	---	--	--	97	79	189	105	6	16	18	33	104	3
Pocatello	4444	31.0	13.0	89.4	55.9	47.2	17	103	-31	1333	6976	1.32	.72	12.44	3.80	.00	1.65	9.5	38.0	10.1	81	75	74	56	30	21	9.6	9.2	72	36	81	113	102	150	93	14	27	9	31	161	10
Salmon	3949	28.2	4.1	89.6	46.8	44.0	48	---	---	1513	7922	1.28	.42	8.64	3.88	.00	1.50	---	---	---	--	--	--	--	--	--	---	---	---	--	--	---	--	---	---	-	---	--	-	-	--
ILLINOIS							66	117	-35							0.00	10.25																								
Cairo CO	314	44.9	29.8	90.7	71.7	59.8	84	106	-16	856	3756	4.72	2.60	43.65	15.70	.01	7.56	3.5	9.6	17.0	80	68	--	82	56	--	9.8	6.4	62	46	82	113	118	134	113	3	58	6	36	62	1
Chicago	610	32.7	17.1	85.3	63.9	50.1	85	105	-23	1243	6310	4.15	1.41	32.72	12.06	.06	6.19	8.6	33.8	14.9	80	70	74	76	55	61	11.8	8.7	87	44	73	113	120	132	124	10	37	11	13	110	8
Joliet (1952)	584	32.5	15.0	86.9	60.5	49.1	11	101	-20	1277	6578	4.14	1.51	34.25	9.23	.25	5.32	5.7	25.0	8.0	--	--	--	--	--	--	---	---	---	--	--	83	124	157	110	9	40	24	26	143	12
Moline	589	31.9	14.4	87.2	63.7	50.2	23	106	-23	1296	6364	4.63	1.17	33.10	10.35	.04	4.89	5.9	24.1	9.6	80	70	75	83	53	55	10.5	7.3	77	43	75	103	103	159	109	9	46	20	31	137	10
Peoria	654	33.3	16.7	87.0	64.4	51.0	100	113	-27	1240	6087	3.94	1.91	35.18	12.30	.04	5.52	6.0	21.6	18.0	83	72	78	81	54	58	8.9	5.7	75	47	76	142	105	118	112	7	49	12	30	124	8
Springfield CO	632	36.4	21.6	89.1	68.3	54.4	c	c	c	1116	5225	4.11	1.67	35.82	c	c	c	c	c	c	--	--	--	--	--	--	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Springfield	589	35.3	19.4	87.4	65.2	52.4	77	112	-24	1166	5693	4.19	1.62	36.65	15.16	.02	5.94	5.1	19.4	15.0	85	73	79	85	53	57	12.6	9.2	68	47	77	121	112	132	112	6	48	9	32	103	6
INDIANA							69	116	-35							0.00	10.50																								
Evansville	383	43.4	26.0	89.1	67.3	56.9	59	108	-23	939	4360	4.29	2.82	41.37	14.78	.01	6.94	4.6	14.3	20.0	82	68	73	78	52	57	9.8	6.8	113	43	78	114	129	122	114	4	50	11	42	79	1
Fort Wayne	801	33.4	19.1	84.3	62.6	49.9	44	106	-24	1200	6287	3.56	1.77	34.21	10.09	.20	4.93	7.7	27.1	12.4	85	74	80	78	51	57	10.6	7.5	65	38	74	96	114	155	128	8	42	11	18	124	6
Indianapolis CO	718	38.7	23.4	88.3	67.7	54.5	c	c	c	1051	5134	4.18	2.08	39.24	c	c	c	c	c	c	--	--	--	--	--	--	---	---	c	c	c	c	c	c	c	c	c	---	c	c	c
Indianapolis	793	37.1	20.5	87.9	64.1	52.5	84	107	-25	1122	5611	4.21	2.08	39.69	13.12	.07	6.80	5.6	20.4	12.1	82	73	78	81	53	61	11.4	7.9	111	41	74	100	122	143	131	5	42	20	19	104	4
South Bend	768	31.9	17.2	84.6	62.1	49.1	62	109	-22	1252	6524	3.84	1.56	35.59	9.75	.02	3.50	11.6	48.2	12.5	83	76	80	83	53	59	12.1	8.2	---	--	--	74	109	182	131	17	44	22	19	137	7
Terre Haute (1953)	578	38.4	20.2	88.9	64.9	53.5	41	110	-20	1107	5366	4.43	2.14	40.91	11.94	.03	5.16	4.7	17.7	10.2	82	70	76	77	50	56	10.4	7.3	66	44	74	98	128	139	121	6	48	11	34	100	4
IOWA							83	118	-47							0.00	12.99																								
Burlington	694	32.5	15.5	88.0	65.5	51.3	58	111	-27	1271	6101	5.64	1.41	36.61	15.10	.08	6.28	6.9	24.9	13.0	81	71	76	84	55	59	11.1	7.9	73	50	78	172	77	116	103	10	55	20	35	129	10
Charles City CO(1952)	1013	25.7	7.8	84.8	62.3	46.5	61	108	-34	1494	7504	4.28	1.15	31.42	12.78	T	6.74	9.9	43.4	17.5	--	--	--	--	--	--	7.7	6.0	48	49	74	121	118	126	111	--	42	---	17	155	28
Davenport CO	568	32.0	16.5	87.3	67.2	51.4	83	111	-27	1262	6091	4.79	1.31	34.27	12.68	.01	6.57	7.2	26.7	11.2	--	--	--	--	--	--	---	---	---	--	--	---	---	---	112	9	41	9	22	123	11
Des Moines CO	807	31.4	14.2	87.6	66.6	50.9	c	c	c	1308	6274	5.05	1.07	30.89	c	c	c	c	c	c	--	--	--	--	--	--	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Des Moines	948	30.8	13.3	86.8	65.6	50.2	77	110	-30	1330	6446	4.99	1.08	30.74	15.79	.03	5.37	8.6	31.9	17.7	78	70	73	84	55	55	10.8	8.6	76	56	75	119	116	130	107	10	47	6	25	129	14
Dubuque	1065	27.2	11.6	83.2	63.3	47.0	81	110	-32	1414	7271	5.09	1.11	32.85	14.16	T	5.48	9.0	35.2	14.9	81	70	76	79	53	61	---	---	47	--	--	113	114	138	114	12	39	11	15	132	17
Sioux City	1094	28.9	9.2	88.4	64.2	48.6	66	111	-35	1423	7012	4.41	.74	24.90	11.78	T	5.12	6.8	31.2	20.0	77	68	71	80	52	51	11.5	9.6	91	55	75	124	115	126	94	9	42	10	26	145	20
Waterloo (1952)	867	28.0	9.4	86.2	62.8	45.1	64	112	-33	1435	7144	4.76	1.01	32.06	12.43	.02	----	---	---	---	--	--	--	--	--	--	---	---	---	--	--	---	--	---	---	--	--	---	-	---	--
KANSAS							69	121	-40							0.00	12.59																								
Concordia CO	1375	37.6	18.6	91.2	68.7	54.5	70	116	-25	1144	5323	4.23	.59	25.40	13.74	T	6.46	4.1	20.3	17.2	78	63	68	76	46	48	7.7	7.1	65	60	77	142	129	94	88	6	46	12	47	118	7
Dodge City	2594	42.0	18.6	92.9	66.9	55.0	81	109	-26	1076	5058	3.01	.49	20.58	12.82	.00	6.03	3.5	18.8	17.5	79	56	62	76	41	44	10.9	11.2	78	67	78	171	117	77	76	5	41	14	57	124	5
Goodland	3645	39.3	12.3	90.9	60.2	49.9	35	111	-22	1215	6367	3.02	.31	18.21	8.09	.00	2.95	3.0	25.5	17.9	76	52	62	78	43	41	13.0	12.5	---	--	--	135	133	97	75	7	53	28	62	152	9
Topeka CO	926	38.9	20.8	91.8	69.4	55.9	69	114	-25	1088	4919	4.61	1.00	33.28	14.10	T	8.08	c	c	c	c	c	c	c	c	c	c	c	c	c	c	142	122	101	97	c	c	c	48	106	4
Topeka	879	38.8	18.6	90.7	67.7	54.6	9	---	---	1125	5209	4.66	.97	33.09	-----	---	----	4.2	19.2	18.7	77	64	67	81	51	50	9.4	8.4	66	55	74	---	---	---	---	5	51	9	---	---	--
Wichita	1321	41.3	22.6	92.3	69.4	57.0	67	114	-22	1023	4571	4.99	.98	30.70	14.43	.00	7.99	3.2	13.6	12.3	78	63	66	77	48	49	12.5	11.6	100	61	80	158	112	95	87	4	52	11	54	96	2

See reference notes at end of table.

Table 10a - Continued

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F) Normal (1921-1950) January Daily maximum	Temperature Normal January Daily minimum	Temperature Normal July Daily maximum	Temperature Normal July Daily minimum	Temperature Normal Annual	Temperature Extremes Length, yrs.	Temperature Extremes Record highest	Temperature Extremes Record lowest	Normal degree days (1921-1950) January	Normal degree days Seasonal	Precipitation (inches) Normal (1921-1950) Wettest month	Precipitation Normal Driest month	Precipitation Normal Annual	Precipitation Extremes Wettest month	Precipitation Extremes Driest month	Precipitation Extremes Maximum in 24 hours	Snow, sleet, hail Mean total January	Snow, sleet, hail Mean total Seasonal	Snow, sleet, hail Extreme Maximum in 24 hours	Relative humidity (percent) January 7:30 a.m. EST	Relative humidity January 1:30 p.m. EST	Relative humidity January 7:30 p.m. EST	Relative humidity July 7:30 a.m. EST	Relative humidity July 1:30 p.m. EST	Relative humidity July 7:30 p.m. EST	Wind Speed (m.p.h.) Mean hourly January	Wind Speed Mean hourly July	Wind Speed Fastest mile	Sunshine (percent of possible) January	Sunshine July	Annual mean number of days Sunrise to sunset Clear	Sunrise to sunset Partly cloudy	Sunrise to sunset Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max. 90° and above	Temperature Min. 32° and below	Temperature Min. Zero and below
KENTUCKY							67	114	-33							0.00	10.10																								
Bowling Green (1952)	534	45.6	27.0	88.9	65.6	56.9	65	113	-20	890	4279	5.66	2.88	50.10	20.70	0.03	6.15	3.0	8.8	---	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
Lexington	979	40.5	24.5	86.2	65.2	54.4	72	108	-20	1008	4979	4.50	2.44	43.71	16.65	.11	8.06	6.2	19.5	13.4	82	74	74	78	56	65	13.6	8.8	56	36	64	127	106	132	133	6	45	11	25	91	2
Louisville CO	457	43.2	27.9	87.9	69.3	57.3	c	c	c	911	4279	4.67	2.48	41.60	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Louisville	474	43.6	26.2	89.1	66.6	56.5	83	107	-20	933	4439	4.67	2.45	41.47	19.17	.07	5.80	4.0	13.5	15.0	78	68	69	77	52	57	9.9	7.0	68	41	72	118	115	132	123	4	46	9	36	76	1
LOUISIANA							65	114	-16							0.00	21.40																								
Baton Rouge	64	61.3	43.4	90.0	72.2	67.5	11	103	13	424	1595	5.87	2.98	59.13	14.63	.08	8.40	.2	.2	1.8	89	65	71	91	60	71	---	---	---	---	---	108	133	124	111	*	73	31	92	15	0
Burrwood (1952)	5	65.2	49.0	89.0	76.1	70.7	45	99	10	303	1033	7.31	3.56	58.40	18.99	.00	10.80	T	T	T	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
Lake Charles	12	61.8	43.4	91.1	73.3	68.3	17	104	12	416	1543	6.93	3.44	57.82	17.90	T	16.01	.4	.4	3.4	90	67	77	93	63	72	11.2	6.9	55	---	---	98	120	147	108	*	72	37	86	12	0
New Orleans CO	9	63.5	48.3	90.3	75.8	70.4	82	102	7	341	1175	7.09	3.66	63.54	25.11	T	14.01	.1	.2	8.2	85	67	73	84	64	72	8.3	6.4	98	49	58	119	137	109	119	*	74	14	57	4	0
New Orleans (1950)	3	63.2	46.5	90.1	73.4	69.1	14	100	19	364	1317	5.90	3.18	59.65	16.87	.21	7.87	T	T	T	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	0	---	---	---	5	0
Shreveport	252	56.4	39.2	93.4	73.8	66.4	82	110	-5	550	2117	4.83	2.22	45.10	25.45	T	12.44	.9	1.8	11.0	83	67	67	86	56	62	9.0	7.1	59	46	78	150	108	107	99	--	49	6	84	22	*
MAINE							68	105	-48							0.00	7.72																								
Caribou	624	18.1	-.8	74.5	53.5	37.2	17	96	-41	1745	10173	4.03	1.73	35.88	8.14	.12	6.23	21.8	102.3	18.2	74	69	73	81	60	71	12.6	8.9	---	---	---	58	104	203	153	31	21	26	3	190	44
Eastport CO (1952)	33	29.8	14.1	69.2	51.9	42.3	80	93	-23	1333	8266	3.66	2.49	35.92	13.22	.13	5.48	16.9	71.6	18.5	74	72	71	85	77	83	13.5	7.5	83	45	56	89	114	162	149	23	13	60	*	137	10
Portland	61	30.7	10.6	78.7	56.9	44.5	84	103	-39	1373	7681	4.43	2.59	41.78	12.29	.09	7.49	19.1	70.6	23.3	76	63	70	79	60	77	8.9	7.4	76	54	65	130	105	130	134	17	25	56	4	136	6
MARYLAND							61	109	-40							T	14.75																								
Baltimore CO	14	43.6	29.6	86.9	70.0	57.1	82	107	-7	880	4203	4.38	2.95	42.59	17.69	.05	7.82	c	c	c	--	--	--	--	--	--	---	---	c	c	c	c	c	c	124	c	c	c	24	72	*
Baltimore	146	42.8	25.6	86.6	66.0	54.7	16	---	---	955	4787	4.38	2.95	42.59	----	----	----	5.9	21.8	24.5	74	59	66	78	54	65	10.3	8.8	80	48	67	121	124	120	---	6	32	17	---	---	--
Frederick	294	41.4	24.0	87.9	65.4	54.7	14	102	-13	1001	4854	4.03	2.58	40.23	11.26	.15	5.56	5.9	19.8	17.5	--	64	--	--	53	--	---	---	---	---	---	---	---	---	129	5	22	9	34	121	1
MASSACHUSETTS							68	106	-30							0.00	11.14																								
Blue Hill Obs.	629	34.0	18.8	79.7	61.4	47.3	71	101	-21	----	----	4.20	3.45	46.28	18.78	.06	9.93	15.4	57.8	18.4	--	--	--	--	--	--	17.4	13.0	121	44	57	101	127	137	137	16	25	97	4	132	5
Boston	15	36.5	21.6	80.0	64.3	50.7	84	104	-18	1113	5791	3.50	2.79	38.76	17.09	T	8.40	11.8	41.8	16.5	71	59	67	72	55	70	12.8	10.1	87	49	64	114	115	136	126	11	19	15	9	103	2
Nantucket	43	39.3	24.8	73.8	60.3	48.8	69	95	-6	1020	6102	4.05	2.83	41.69	12.92	.01	5.73	7.0	26.3	20.1	81	73	80	85	74	90	14.8	11.8	91	44	63	111	107	147	132	6	18	86	*	87	*
Pittsfield	1153	29.8	12.5	79.0	56.1	44.5	17	95	-25	1358	7694	4.95	2.51	44.24	10.32	.60	4.25	17.6	71.9	15.8	--	--	--	--	--	--	---	---	---	---	---	57	127	181	157	21	28	45	2	163	12
Worcester	997	31.3	16.6	79.3	61.0	47.0	--	---	---	1271	6979	4.31	2.57	42.02	18.68	.47	----	----	----	---	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
MICHIGAN							69	112	-51							0.00	9.91																								
Alpena CO	587	28.1	14.2	76.8	57.9	43.5	83	104	-28	1358	8073	3.20	1.45	26.63	13.18	.10	4.40	16.9	66.8	16.8	80	70	77	77	61	69	11.0	9.0	61	28	70	85	125	155	148	21	25	14	3	158	14
Detroit	619	33.1	19.3	83.5	62.6	49.3	85	105	-24	1203	6404	3.61	2.02	31.03	8.76	.04	4.75	10.0	39.4	24.5	80	71	78	73	50	59	11.8	9.0	95	34	69	96	122	147	135	12	32	11	10	125	4
Detroit Willow Run	722	32.1	18.5	84.3	62.6	49.2	9	100	-13	1231	6469	3.44	1.74	30.16	8.71	.42	4.78	8.8	31.6	8.0	81	71	76	77	47	55	11.7	8.7	60	---	---	82	104	179	125	11	38	30	19	133	3
East Lansing CO	856	30.9	16.6	82.4	59.7	47.3	56	102	-25	1277	6982	3.75	1.81	31.08	9.21	.04	5.47	11.0	47.2	18.1	82	73	--	80	51	--	10.8	7.2	72	32	73	94	109	162	143	14	37	13	10	144	7
Escanaba CO	594	25.0	10.0	75.3	58.4	41.9	82	100	-32	1473	8657	3.22	1.37	27.08	12.06	.07	5.05	13.5	58.0	18.5	79	70	75	80	66	69	9.7	8.5	68	40	64	103	111	151	131	17	34	17	1	164	22
Flint	761	30.5	15.8	82.7	59.2	46.8	30	---	---	1296	7128	3.48	1.58	30.14	8.18	.07	----	----	----	---	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
Grand Rapids CO	638	31.8	19.7	84.0	63.2	49.3	64	108	-24	1215	6474	3.47	1.67	31.35	13.22	.02	4.58	15.1	56.6	14.0	c	--	c	c	--	c	c	c	c	c	c	c	c	c	135	20	39	7	14	129	2
Grand Rapids	681	30.7	16.3	83.6	59.4	47.1	17	---	---	1287	7075	3.45	1.67	31.50	----	----	----	----	----	---	85	78	81	76	50	54	11.9	8.7	80	26	72	81	109	175	---	--	---	---	---	---	--
Marquette CO	677	25.2	12.1	75.1	57.1	42.2	81	108	-27	1435	8529	3.46	1.72	31.24	12.73	.12	5.14	23.0	109.7	17.0	76	71	74	74	65	69	10.6	8.0	91	31	63	70	118	177	160	30	25	12	4	160	13
Muskegon	627	31.4	18.3	80.5	59.2	46.8	14	97	-14	1243	7089	3.34	1.64	29.01	7.12	.33	3.51	20.5	69.0	12.5	82	77	78	83	57	60	---	---	---	---	---	81	92	192	141	25	38	25	6	145	2
Sault Ste. Marie	721	21.9	5.7	75.4	52.4	39.3	67	98	-37	1587	9475	3.49	1.52	30.19	9.35	.09	5.64	19.4	83.5	14.3	78	75	79	84	61	69	9.0	7.2	72	28	64	79	99	187	159	29	24	24	1	171	28
MINNESOTA							69	114	-59							0.00	10.75																								
Duluth CO	1162	18.7	1.9	75.8	55.8	39.2	81	106	-41	1696	9574	3.72	1.00	26.63	11.52	.07	5.35	11.1	55.8	23.0	--	--	--	--	--	--	---	---	75	46	68	110	119	136	126	16	31	37	2	171	41
Duluth	1409	17.2	-.7	76.8	56.0	38.2	14	---	---	1758	9937	4.33	1.20	29.72	8.48	.13	----	----	----	---	78	74	74	87	61	66	12.6	10.4	c	c	c	c	c	c	---	--	c	c	---	---	--
International Falls	1179	13.6	-7.7	78.6	53.0	36.3	16	97	-41	1922	10600	3.73	.85	24.17	11.26	.10	4.82	10.8	61.2	13.9	76	70	73	88	57	59	---	---	---	---	---	83	105	177	135	19	29	11	4	199	66
Minneapolis	830	23.1	6.1	84.9	63.3	45.6	65	108	-34	1562	7853	4.26	.80	24.71	11.87	T	7.80	8.9	42.4	16.2	77	67	72	79	51	54	11.2	9.7	92	49	72	105	113	147	107	15	38	8	15	149	31
Rochester	1017	23.5	5.1	84.2	59.4	44.5	43	108	-42	1572	8095	4.33	.75	28.48	11.95	T	5.26	8.7	40.6	12.9	78	70	74	84	56	58	10.2	7.9	---	---	---	92	125	148	104	13	41	16	15	166	31
St. Cloud	1034	20.7	.2	83.2	58.0	41.9	62	107	-42	1690	8893	3.85	.69	24.16	12.81	.00	5.00	8.2	38.0	12.2	78	73	74	86	56	58	8.2	7.2	---	---	---	124	99	142	110	13	35	23	11	179	43
St. Paul (1952)	703	23.3	6.5	84.9	63.7	45.8	80	108	-41	1553	7804	4.23	.87	25.60	11.67	T	5.67	8.9	41.2	17.0	75	69	69	79	51	53	9.5	8.1	92	---	---	104	128	133	114	13	34	9	12	154	32
MISSISSIPPI							68	115	-16							0.00	12.35																								
Jackson	305	58.6	37.9	93.6	70.5	65.4	60	107	-5	535	2202	6.23	2.10	50.86	15.76	.00	7.50	1.1	1.5	11.7	87	65	71	90	55	65	9.8	6.1	68	40	62	111	135	119	102	*	62	16	99	36	*
Meridian	294	58.5	36.5	92.0	69.8	64.5	66	105	-7	561	2333	6.58	2.38	55.07	20.06	T	9.50	.6	1.2	7.6	86	61	69	87	56	69	6.4	4.6	47	---	---	137	118	110	109	*	61	9	66	37	*
Vicksburg CO	234	57.6	40.8	90.0	72.9	66.1	82	104	-1	507	2000	6.03	1.77	49.63	22.24	T	9.97	1.0	1.7	10.0	82	65	67	87	61	70	8.5	6.4	49	45	69	130	120	115	108	*	62	7	61	19	*
MISSOURI							68	118	-40							0.00	12.25																								
Columbia	778	38.8	20.7	88.8	66.8	54.6	66	113	-26	1091	5113	4.90	1.57	39.33	14.86	0.06	6.61	4.5	19.5	12.8	79	66	69	83	54	56	8.8	6.0	63	52	76	134	108	123	110	6	59	7	40	104	5
Kansas City	741	39.0	21.0	91.2	70.5	56.1	67	113	-22	1085	4888	5.02	1.16	35.31	16.17	.04	7.03	4.6	20.5	25.0	78	64	68	76	49	52	10.2	8.9	72	55	77	141	113	111	104	5	55	10	39	96	4
St. Joseph	809	36.9	17.3	91.4	68.8	54.5	46	110	-24	1175	5336	6.46	1.01	35.28	15.71	T	6.89	4.6	19.2	12.4	78	64	70	79	51	52	12.0	7.6	64	54	77	162	99	104	99	4	53	21	44	111	5
St. Louis CO	465	41.0	25.6	89.6	71.6	57.3	85	112	-22	983	4469	4.10	1.88	37.86	20.45	.00	8.78	4.2	17.1	20.4	77	65	68	73	50	55	11.9	9.2	91	48	72	138	115	112	112	5	49	10	37	80	2
St. Louis (1950)	552	40.8	23.6	90.0	69.3	56.3	14	---	---	1017	4699	4.37	1.66	36.73	14.78	T	5.15	----	----	---	c	c	c	c	c	c	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
Springfield	1265	41.7	23.7	87.7	67.2	55.7	68	113	-29	1001	4693	5.56	1.76	41.51	16.15	.05	6.55	4.5	16.9	20.0	82	68	72	82	57	60	11.1	8.5	70	48	77	159	101	105	112	4	59	11	29	86	3
MONTANA							89	117	-70							0.00	11.50																								
Billings	3568	32.3	13.4	87.9	58.6	47.2	21	106	-38	1305	7106	2.61	.44	13.10	7.64	T	2.83	7.1	52.4	23.7	66	62	60	65	40	32	12.8	9.9	73	47	78	87	125	153	91	20	31	20	27	149	17
Butte	5530	28.0	.4	79.8	45.0	38.3	24	100	-52	1575	9760	2.28	.53	12.67	5.40	T	2.02	7.3	51.0	13.0	x76	x70	x71	x82	x36	x33	x8.9	x8.7	---	---	---	x79	x113	x173	107	19	x45	x6	5	228	44
Glasgow	2277	19.6	1.4	86.7	57.6	42.0	12	108	-50	1690	8869	3.48	.34	13.26	6.95	T	2.83	8.0	38.6	8.0	72	67	71	74	38	34	---	---	---	---	---	85	105	175	96	13	27	12	29	184	49
Great Falls	3664	31.7	13.6	83.8	55.3	45.1	18	105	-35	1311	7555	2.96	.55	14.03	8.13	T	3.20	7.6	53.5	11.0	67	63	63	65	37	32	17.6	11.2	73	48	79	86	111	168	97	20	29	12	16	145	24
Havre CO	2488	26.3	6.1	85.9	56.6	43.6	76	108	-57	1513	8213	2.98	.39	12.31	9.67	T	3.71	7.0	36.8	24.8	82	71	77	75	38	35	9.4	7.5	59	49	78	125	132	108	90	13	23	5	19	171	40

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

Table 10a - Continued

State and Station	Elevation ground (feet)	Temperature (°F) Normal (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length, yrs.	Record highest	Record lowest	Normal degree days (1921-1950) January	Seasonal	Precipitation (inches) Normal (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet, hail Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	July 7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	Wind Speed (m.p.h.) Mean hourly January	July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max. 90° and above	Min. 32° and below	Zero and below
MONTANA (Cont'd.)																																									
Helena CO	4090	27.3	9.9	80.5	53.2	43.2	c	c	c	1438	8126	2.45	0.49	12.55	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Helena	3893	27.7	7.5	83.8	52.2	43.0	76	103	-42	1469	8250	2.15	.41	11.30	6.67	T	3.67	9.9	53.7	14.6	68	64	64	65	38	33	7.3	8.1	73	46	77	99	122	144	99	18	30	3	9	157	22
Kalispell	2965	28.0	12.6	82.1	49.9	43.2	6	97	-38	1386	8055	2.43	.92	16.35	3.56	T	1.74	20.8	68.3	15.4	--	76	--	--	42	--	9.1	7.2	---	---	---	74	80	211	132	25	26	38	7	183	16
Miles City	2629	26.6	5.5	89.9	60.0	45.4	64	111	-49	1516	7850	2.84	.36	12.81	9.78	.00	3.74	6.0	32.0	28.0	t84	t73	t77	t70	t35	t38	6.0	6.2	---	t52	t80	139	128	98	89	12	24	2	34	163	31
Missoula	3200	28.6	10.1	86.3	50.4	44.1	20	105	-26	1414	7873	1.87	.78	12.76	4.10	.02	1.69	9.5	41.4	22.8	84	79	77	78	41	29	5.5	6.6	57	30	78	82	88	195	121	13	27	15	21	162	10
NEBRASKA							80	118	-47							0.00	13.15																								
Grand Island	1841	34.0	11.9	92.9	64.9	51.0	25	117	-26	1302	6311	3.87	.55	22.70	10.43	.00	5.41	6.4	27.2	8.6	79	63	69	80	48	47	11.4	11.8	---	---	---	136	108	121	79	9	47	16	56	147	14
Lincoln CO	1166	34.3	15.7	90.5	67.8	52.7	69	115	-29	1240	5865	4.10	.82	25.73	14.21	.00	8.38	5.9	26.3	12.4	--	--	--	--	--	--	10.4	9.2	66	57	76	131	111	123	93	9	46	4	41	129	11
Lincoln (1953)	1180	34.4	13.6	90.8	66.1	51.7	14	---	---	1271	6104	3.98	.71	24.10	----	----	----	----	----	----	79	67	72	82	50	50	---	---	---	---	---	c	c	c	---	--	---	---	---	---	-
Norfolk	1544	29.4	9.2	88.7	63.7	48.3	10	113	-26	1417	7065	4.78	.78	25.69	9.11	T	3.46	4.6	27.7	7.4	81	65	72	82	53	51	---	---	---	---	---	120	105	140	89	9	49	10	36	156	19
North Platte	2779	36.8	11.2	89.4	62.2	49.5	81	112	-35	1271	6546	2.92	.34	17.54	10.47	T	6.32	3.9	25.5	13.0	79	61	66	84	50	46	8.0	8.1	72	62	78	146	129	90	83	8	38	7	34	159	15
Omaha	978	32.4	13.5	89.3	67.6	51.6	83	114	-32	1302	6160	4.51	.81	25.90	12.70	T	7.03	6.5	27.9	16.4	80	66	69	76	51	52	9.8	8.1	109	56	77	133	117	115	98	10	40	9	31	123	14
Scottsbluff	3950	36.7	10.3	90.1	59.0	48.2	64	110	-45	1287	6841	2.78	.33	15.00	8.33	.00	3.74	4.9	34.4	17.6	69	51	56	78	41	39	9.2	9.2	80	---	---	209	87	69	74	13	47	11	45	179	16
Valentine	2587	32.8	9.3	88.3	62.2	47.9	67	110	-38	1361	7075	3.16	.46	18.23	8.18	.00	4.21	6.1	38.2	16.0	--	--	--	--	--	--	9.2	9.2	62	62	80	137	128	100	93	--	38	---	32	164	22
NEVADA							67	122	-50							0.00	4.37																								
Elko	5075	34.5	9.2	91.3	49.1	45.7	60	107	-43	1336	7335	1.07	.29	9.13	6.00	.00	3.30	10.7	36.9	16.7	80	72	70	59	26	21	6.2	6.4	---	---	---	157	94	114	53	14	22	4	43	214	19
Ely	6257	37.4	8.6	88.6	48.1	45.2	17	99	-27	1302	7443	1.29	.50	10.52	2.63	.00	1.42	8.8	42.3	13.1	76	61	61	56	24	26	11.2	10.9	74	62	79	137	106	122	70	14	29	*	14	218	23
Las Vegas	2162	55.4	33.0	105.4	75.6	66.8	19	117	8	653	2425	.58	.13	4.35	3.39	.00	1.75	1.1	1.3	5.0	62	42	35	32	19	15	6.2	8.9	---	75	84	209	85	71	26	*	15	*	141	59	0
Reno	4397	45.7	16.6	91.8	47.3	49.5	68	106	-19	1048	6036	1.05	.22	6.96	6.76	.00	2.71	9.0	28.6	22.5	78	67	57	62	25	20	6.0	7.2	72	58	90	196	98	71	49	8	15	4	34	160	3
Tonopah (1952)	6101	37.4	22.7	87.1	62.0	51.0	--	---	---	1082	5813	.55	.19	4.81	3.26	.00	1.97	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	-
Winnemucca	4299	37.4	18.2	92.0	56.4	49.1	75	108	-36	1153	6369	1.01	.18	8.75	5.23	.00	1.64	7.7	27.7	18.2	84	66	65	48	20	17	8.2	7.5	69	53	94	169	95	101	72	8	12	1	41	171	7
NEW HAMPSHIRE							80	106	-46							.00	8.00																								
Concord	339	31.6	8.6	82.6	55.3	44.8	85	102	-37	1392	7612	3.62	2.30	37.23	10.97	T	5.97	17.8	68.0	19.0	78	59	69	80	49	69	6.1	4.9	72	48	56	139	106	120	120	19	24	53	9	154	15
Mt. Washington	6262	14.1	-3.3	55.1	43.4	27.0	23	71	-46	m1795	m13627	6.58	4.75	70.20	15.57	.75	5.20	26.3	181.7	32.0	b77	b79	b78	b91	b86	b90	48.4	25.2	231	33	31	52	78	235	203	56	15	303	0	242	64
NEW JERSEY							71	110	-34							0.00	14.81																								
Atlantic City CO	8	42.4	29.1	79.3	67.9	54.1	82	104	-9	905	4741	4.72	2.98	41.77	14.87	.01	9.21	4.0	14.4	18.0	79	68	74	81	72	82	16.2	13.3	91	52	67	124	119	122	122	5	23	21	3	76	*
Newark	11	39.0	24.0	84.9	65.6	52.9	25	105	-14	1039	5252	4.20	3.10	42.96	11.84	.07	4.59	6.4	23.8	26.0	72	59	65	74	51	65	11.1	8.6	82	---	---	93	117	155	123	6	24	28	23	98	*
Trenton CO	56	39.8	25.4	84.6	66.0	53.5	83	106	-14	1004	5068	4.59	2.65	40.06	15.22	.06	5.42	6.3	23.1	16.0	73	N62	68	77	N55	68	10.5	8.4	73	48	67	105	114	146	114	6	35	22	15	92	*
NEW MEXICO							64	116	-50							0.00	11.28																								
Albuquerque	5310	45.6	21.8	91.6	66.4	56.6	24	102	-6	970	4389	1.43	.28	8.68	3.81	.00	2.18	2.0	8.6	6.8	70	49	46	61	33	30	7.9	8.8	90	71	77	176	116	73	61	4	46	4	63	118	*
Clayton	4969	46.7	19.0	88.4	59.8	53.1	11	e102	e-17	995	5138	2.59	.27	15.42	e7.77	eT	e4.67	4.4	19.1	10.9	62	43	49	76	41	42	16.8	12.4	---	---	---	175	102	88	65	5	55	14	42	140	3
Raton (1952)	6379	42.8	9.5	84.4	52.7	48.2	11	97	-24	1203	6417	2.50	.35	15.42	7.61	.00	3.97	5.8	24.0	8.0	72	47	52	81	38	43	---	---	---	---	---	135	144	86	73	9	76	6	18	184	9
Roswell	3612	53.8	25.3	92.1	65.8	59.8	61	110	-29	787	3424	2.00	.39	12.07	9.56	.00	5.65	2.6	9.9	11.0	70	45	41	73	38	35	7.8	7.4	75	69	76	190	117	58	54	3	45	6	78	99	1
NEW YORK							66	108	-52							0.00	10.45																								
Albany CO	19	32.9	17.4	82.6	63.6	49.4	c	c	c	1234	6319	4.08	2.18	35.81	c	c	c	c	c	c	--	--	--	--	--	--	---	---	c	c	c	c	c	c	c	c	c	c	c	c	c
Albany	277	30.9	14.0	82.5	60.2	47.2	82	104	-26	1318	6982	3.37	2.03	31.82	13.48	.08	4.75	12.8	50.1	30.4	75	63	71	79	52	64	10.0	7.3	71	41	63	105	125	135	136	12	25	17	9	129	9
Bear Mountain (1952)	1300	32.8	18.9	79.5	62.6	48.3	13	99	-23	1212	6511	4.71	2.90	44.29	16.87	.25	5.50	11.3	48.9	23.0	--	--	--	--	--	--	---	---	---	---	---	73	122	170	126	13	27	98	4	130	3
Binghamton CO	858	34.0	17.3	82.8	60.0	48.4	65	103	-28	1218	6556	3.69	2.24	36.26	9.59	.16	4.55	12.3	51.1	21.0	--	--	--	--	--	--	6.9	4.7	---	c	c	c	c	c	152	14	c	27	10	133	7
Binghamton	1601	29.7	13.6	79.1	59.0	45.2	12	---	---	1342	7537	3.87	2.30	37.66	----	----	----	----	----	----	82	68	77	85	55	70	---	---	72	32	55	68	108	189	---	--	31	---	---	---	--
Buffalo	693	32.4	18.5	81.1	60.0	47.5	82	99	-21	1225	6838	3.09	2.43	32.29	10.63	.05	4.28	18.9	74.8	24.3	79	72	78	78	53	63	17.5	12.1	91	31	70	72	130	163	164	22	29	13	2	128	3
New York CO	10	39.9	25.8	82.3	66.9	53.4	85	102	-14	995	5050	4.34	3.04	42.03	14.51	.11	9.40	7.5	30.1	25.8	72	N61	66	75	N57	68	16.4	12.0	113	51	65	105	130	130	125	8	31	18	7	91	*
New York Central Park	132	39.2	26.1	84.7	67.4	54.0	87	106	-15	1001	4965	4.40	3.03	43.36	16.85	.02	5.41	7.8	29.7	26.4	68	62	61	75	56	63	11.1	7.9	---	49	66	102	124	139	122	8	---	---	15	81	1
New York	19	39.1	26.8	84.0	67.8	53.9	16	103	-7	992	4989	4.27	2.91	40.38	16.05	.03	7.11	6.8	26.6	22.8	69	59	63	74	54	65	---	---	---	---	---	---	---	---	118	5	---	---	19	77	*
Oswego CO (1952)	292	31.7	17.6	77.8	62.3	47.0	82	100	-23	1249	6975	3.33	2.48	33.07	10.50	.18	3.76	23.8	87.9	19.1	78	68	77	76	63	70	12.1	7.9	48	19	69	79	102	184	163	28	26	9	2	127	6
Rochester	543	32.7	16.7	82.7	59.7	47.5	84	102	-22	1249	6863	3.09	2.36	31.74	9.70	.08	4.19	17.9	74.9	29.8	81	72	79	79	50	60	10.9	7.4	73	32	70	84	112	169	167	23	28	16	9	131	5
Schenectady (1952)	217	28.8	14.2	82.5	62.8	47.2	8	102	-28	1349	7050	3.86	2.22	35.25	8.69	.64	7.46	16.7	62.7	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
Syracuse	424	33.9	17.0	83.5	61.4	48.8	53	102	-26	1225	6520	3.68	2.52	36.42	15.92	.19	4.79	20.1	82.4	27.2	76	70	76	74	54	65	11.2	8.1	69	31	67	73	114	178	169	24	30	5	7	132	7
NORTH CAROLINA							69	109	-21							0.00	22.22																								
Asheville CO	2203	48.8	30.0	84.1	63.4	56.3	53	99	-6	794	4072	4.50	2.11	37.22	13.75	.02	7.92	2.9	11.0	15.8	82	59	69	88	56	73	9.6	6.2	52	48	59	115	129	121	131	--	52	54	9	83	*
Charlotte	727	52.2	32.3	88.8	68.3	60.5	77	104	-5	704	3205	4.67	2.65	43.09	16.55	T	6.59	1.5	5.8	14.0	80	61	66	82	55	68	7.3	5.9	57	52	65	125	116	124	120	2	46	19	39	46	*
Greensboro	891	49.0	29.0	87.4	66.9	58.1	27	102	-7	806	3810	4.94	2.60	42.49	13.26	.13	7.49	2.6	7.0	14.3	84	59	72	85	56	72	8.3	6.7	63	48	63	114	113	138	120	2	19	32	38	85	*
Hatteras CO	4	54.3	41.6	83.4	73.5	63.1	81	97	8	527	2392	6.48	3.08	54.77	20.95	T	14.73	.3	1.1	12.0	85	75	84	82	75	85	14.3	11.7	110	48	65	142	111	112	122	*	40	9	1	13	0
Raleigh CO	400	51.3	34.0	88.9	69.6	61.1	c	c	c	691	3075	5.64	2.68	45.83	c	c	c	c	c	c	--	--	--	--	--	--	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Raleigh	433	50.8	32.0	89.0	68.0	59.9	69	105	-2	732	3369	5.45	2.82	45.09	13.63	.06	6.66	2.1	7.2	17.8	83	58	71	86	55	72	7.7	6.2	60	49	62	132	117	116	119	4	41	15	40	51	*
Wilmington	30	58.7	36.9	89.1	70.9	63.8	85	104	5	533	2323	8.16	2.59	49.84	21.12	.02	9.53	.4	1.5	11.1	84	59	76	86	63	79	9.3	8.8	82	57	64	133	129	103	120	*	46	11	24	27	0
Winston-Salem	967	48.6	30.0	87.0	67.9	58.5	56	104	-10	797	3721	4.57	2.79	43.15	12.92	.15	6.24	2.9	8.7	8.9	74	56	64	80	51	66	---	---	---	---	---	119	108	138	104	2	44	33	41	90	*
NORTH DAKOTA							64	121	-60							0.00	7.70																								
Bismarck	1650	20.1	-1.8	85.5	58.6	41.7	81	114	-45	1730	9033	3.33	.36	15.40	9.90	T	3.76	6.0	35.4	13.5	74	67	70	81	48	48	10.1	9.9	72	52	73	135	114	116	94	11	32	7	18	185	49
Devils Lake CO	1471	14.2	-4.7	81.7	56.9	38.7	51	112	-46	1866	9940	3.18	.40	17.61	8.55	T	4.82	6.0	35.0	9.5	75	71	75	86	53	53	9.9	8.5	57	52	71	115	109	141	101	11	30	10	11	189	60
Fargo	895	16.9	-2.8	84.2	58.3	40.9	75	114	-48	1795	9274	3.04	.60	18.73	9.58	T	5.17	7.2	38.8	19.2	75	70	75	84	51	57	10.3	8.9	91	47	74	119	115	131	104	11	30	10	11	179	55
Williston CO	1877	19.8	.2	83.5	58.2	41.3	77	110	-50	1705	9068	3.59	.46	14.66	8.84	T	4.16	6.1	33.4	10.6	73	67	70	75	45	41	7.4	7.6	60	49	77	126	125	114	90	12	26	7	17	184	49

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

Table 10a - Continued

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1921-1950)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (m.p.h.)			Sunshine (percent of possible)		Annual mean number of days									
		Normal (1921-1950)					Extremes					Normal (1921-1950)			Extremes			Snow, sleet, hail			January			July			Mean hourly		Fastest mile	January	July	Sunrise to sunset			Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature		
		January		July		Annual	Length, yrs.	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	Mean total		Extreme	7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	January	July				Clear	Partly cloudy	Cloudy					Max.	Min.	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum													January	Seasonal	Maximum in 24 hours																			90° and above	32° and below	Zero and below
OHIO							82	113	-39							0.00	8.70																								
Akron	1210	34.8	20.0	83.1	61.6	49.7	69	104	-20	1166	6203	4.20	2.13	37.26	11.98	.22	5.96	8.6	35.8	15.6	83	74	79	81	52	64	11.8	7.1	---	---	---	78	112	175	141	9	39	21	14	127	3
Cincinnati CO (1950)	553	42.3	26.9	88.0	68.1	50.3	80	109	-17	942	4532	4.07	2.19	39.34	13.68	.13	5.22	5.4	18.1	11.0	--	--	--	--	--	--	8.9	5.5	49	40	72	c	c	c	130	7	46	10	26	89	1
Cincinnati	869	39.7	23.8	85.9	64.3	53.6	16	---	---	1029	5195	4.04	2.17	39.16	-----	----	----	---	----	----	82	70	74	84	52	60	---	---	---	---	---	108	115	142	---	--	---	---	---	---	--
Cincinnati Obs.	761	40.9	25.2	87.2	65.9	54.9	40	109	-17	989	4870	4.07	2.19	39.34	13.68	.17	4.77	4.8	17.8	11.0	--	--	--	--	--	--	8.6	5.3	49	41	72	---	---	---	135	7	52	17	30	95	1
Cleveland CO	653	36.0	23.0	80.9	66.5	51.5	c	c	c	1101	5717	3.35	2.19	33.50	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Cleveland	787	36.0	20.9	84.7	62.6	50.6	85	103	-17	1132	6006	3.13	2.12	32.08	9.77	.17	4.97	10.4	42.6	17.4	80	74	76	74	51	61	14.5	10.2	78	29	71	89	119	157	154	15	36	6	7	114	3
Columbus CO	724	38.2	23.9	85.8	65.8	53.4	c	c	c	1051	5277	3.66	2.00	34.36	c	c	c	c	c	c	c	--	c	c	--	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Columbus	815	37.8	21.6	86.2	62.6	52.0	77	106	-20	1094	5615	4.33	2.18	37.88	10.71	.10	3.91	6.6	21.7	11.9	83	72	76	77	51	59	9.8	6.6	84	36	71	103	118	144	140	6	40	5	21	107	3
Dayton	1002	37.3	22.1	85.3	64.7	52.2	41	106	-16	1094	5597	3.90	2.11	35.15	12.41	.10	4.56	6.0	20.1	10.0	81	74	76	78	52	56	11.4	7.6	78	38	72	102	114	149	132	6	48	13	20	105	4
Portsmouth CO (1954)	670	42.7	23.4	87.7	61.6	54.1	34	107	-25	989	4965	4.26	2.28	38.56	9.92	.51	3.43	8.8	32.9	10.1	b71	b59	b59	b88	b47	b54	7.7	3.4	60	---	---	a39	a75	a142	106	9	63	64	36	113	0
Sandusky CO	603	35.7	21.8	83.7	65.5	51.3	78	105	-16	1122	5859	3.73	1.92	33.16	12.51	.09	5.95	7.9	28.0	12.3	81	68	78	72	56	65	10.8	7.6	77	34	71	91	121	153	138	12	34	6	13	111	3
Toledo	676	34.6	18.1	84.7	61.5	49.4	85	105	-16	1197	6397	3.55	1.86	31.84	8.49	.04	5.98	7.9	30.3	19.0	79	72	75	76	52	59	12.7	9.1	87	33	71	116	114	135	131	9	35	8	13	121	4
Youngstown	1178	34.9	20.0	83.3	61.2	49.8	12	100	-11	1163	6172	4.16	2.72	41.33	9.87	.43	4.31	10.4	49.6	20.7	84	73	79	81	52	65	11.9	7.2	---	---	---	77	104	184	164	16	37	28	13	133	4
OKLAHOMA							64	120	-27							0.00	19.75																								
Oklahoma City CO(1953)	1254	47.2	28.3	93.1	71.8	61.0	63	113	-17	843	3519	4.42	1.28	32.59	14.12	T	7.87	c2.7	c7.8	c11.3	c79	c62	c65	c80	c49	c51	---	---	66	c57	c78	c161	c107	c97	82	c2	c45	c8	64	70	*
Oklahoma City	1280	47.0	27.2	93.3	70.9	60.4	16	109	-10	865	3644	4.25	1.24	30.22	10.78	T	4.82	3.8	9.1	8.4	79	63	63	82	52	49	16.1	12.1	87	59	79	152	97	116	83	2	51	15	72	76	*
Tulsa	672	46.9	27.9	93.1	71.1	60.6	20	112	-8	856	3584	5.15	1.57	37.68	18.00	T	7.30	3.6	7.9	9.0	79	61	64	84	54	53	11.5	9.0	i75	49	72	124	110	131	87	3	54	10	72	72	1
OREGON							66	119	-54							0.00	10.17																								
Astoria	8	44.0	36.1	66.7	54.8	51.4	2	93	15	772	4995	13.21	1.07	75.99	18.94	.10	3.55	3.2	5.1	3.1	91	89	83	92	77	73	7.3	7.0	---	---	---	59	70	236	209	4	9	44	2	48	0
Baker CO (1952)	3446	32.3	15.9	84.2	51.0	46.1	62	104	-25	1268	7087	1.31	.33	10.02	4.00	T	1.83	11.3	40.4	16.7	†83	†81	†78	†69	†68	†36	5.9	5.8	53	41	83	122	107	136	103	45	16	3	15	156	6
Burns CO	4140	35.5	12.2	87.3	52.2	46.8	17	103	-20	1274	6918	1.47	.25	10.25	3.85	.00	1.85	13.4	47.3	10.9	b81	b72	b66	b57	b32	b20	---	---	---	---	---	116	101	148	90	17	12	7	21	184	6
Eugene	361	44.8	31.6	82.4	50.7	52.4	13	105	-3	831	4779	6.00	.26	37.51	19.49	T	4.82	5.8	8.2	7.2	y94	87	82	y89	55	39	y8.9	y8.2	---	---	---	77	89	199	143	2	4	55	12	63	*
Meacham	4050	32.0	17.7	77.3	49.0	43.5	11	97	-15	1243	7888	4.41	.42	34.71	9.29	.00	3.00	32.6	159.2	22.9	--	79	80	--	41	35	---	---	---	---	---	89	74	202	153	45	19	27	2	172	5
Medford	1312	44.6	29.8	88.8	54.7	54.0	44	115	-10	862	4547	3.13	.17	18.15	9.16	.00	3.17	3.5	7.2	11.0	93	88	75	75	44	27	4.8	5.6	---	---	---	122	83	160	99	3	8	43	48	84	*
Pendleton	1492	36.9	24.2	89.0	59.9	52.7	20	110	-18	1066	5204	1.69	.26	12.96	3.03	.00	1.49	8.1	18.3	13.3	82	78	78	56	35	24	7.9	9.7	---	---	---	105	96	164	100	7	12	27	30	87	3
Portland CO	30	44.2	34.7	79.2	57.8	54.6	82	107	-2	791	4143	7.10	.42	39.91	20.14	.00	7.66	5.7	12.3	16.0	--	--	--	--	--	--	c	c	c	c	c	c	c	c	152	4	---	---	7	27	*
Portland	21	43.3	31.5	79.2	55.3	53.0	15	---	---	856	4632	6.17	.42	35.23	-----	----	----	---	----	----	87	82	78	85	63	48	7.5	6.8	57	27	70	89	96	180	---	--	7	22	---	---	--
Roseburg CO	479	47.5	34.5	83.4	54.3	54.6	c	c	c	744	4122	4.93	.20	30.50	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Roseburg	505	47.1	31.8	83.2	51.2	53.1	77	109	-6	791	4556	4.93	.20	30.50	15.74	.00	4.15	3.2	6.7	9.1	91	86	78	85	54	38	3.9	5.1	40	25	78	105	118	142	134	1	4	49	14	35	*
Salem	195	44.8	31.9	83.2	52.2	53.1	62	108	-10	825	4574	7.12	.32	39.85	17.54	.00	4.30	3.4	7.1	25.0	88	83	78	86	55	40	---	---	---	---	---	112	78	175	142	2	5	36	14	49	*
Sexton Summit	3836	41.6	30.0	76.4	50.0	48.1	11	100	8	905	6217	4.70	.29	30.96	14.71	.00	5.20	26.7	98.6	18.3	--	87	86	--	62	45	---	---	---	---	---	115	71	179	134	33	6	175	2	117	0
Troutdale (1952)	29	42.2	31.4	80.0	53.1	52.4	7	103	3	874	4775	7.24	.53	42.92	11.25	.03	2.84	8.9	14.8	7.3	85	80	76	91	63	50	11.7	4.7	---	---	---	67	77	221	164	5	9	26	13	52	0
PENNSYLVANIA							68	111	-42							0.00	34.50																								
Allentown	376	36.5	20.4	85.5	62.7	50.9	12	102	-10	1132	5880	4.78	2.64	42.25	12.10	.34	4.79	7.6	25.5	12.3	80	65	72	78	49	63	9.7	6.2	---	---	---	91	118	156	127	8	33	34	21	126	3
Erie CO (1952)	655	34.9	22.3	80.0	64.9	50.0	79	98	-16	1128	6116	3.65	2.16	35.82	13.27	.02	10.42	12.5	54.3	26.5	84	79	83	79	64	70	13.3	8.6	60	22	66	88	121	156	159	15	32	3	4	116	3
Harrisburg	335	38.6	23.6	85.6	65.1	53.0	67	104	-14	1051	5258	3.70	2.24	36.01	10.67	.02	6.16	8.6	31.0	21.0	73	60	68	75	50	63	7.8	5.8	68	43	68	101	115	149	126	8	33	14	17	97	1
Park Place CO (1953)	1932	30.8	16.8	77.8	59.5	46.1	24	98	-22	1277	7175	5.54	2.52	46.65	19.81	.72	7.83	9.8	44.8	16.0	86	74	78	82	63	77	---	---	---	---	---	83	104	178	138	15	25	104	2	145	5
Philadelphia CO(1954)	26	41.5	28.2	85.3	69.0	55.7	84	106	-11	933	4523	4.62	2.61	41.44	12.10	.09	5.89	5.7	21.2	21.0	74	65	68	75	56	66	10.9	8.7	88	45	64	109	122	134	123	6	27	10	14	76	*
Philadelphia	13	40.9	25.4	86.5	66.0	54.3	14	102	1	986	4866	4.58	2.60	41.13	9.70	.11	4.81	4.9	16.9	9.8	77	60	69	78	51	65	10.3	8.1	67	45	65	94	118	153	119	5	28	32	27	93	0
Pittsburgh CO	749	40.2	25.8	85.1	65.6	53.9	c	c	c	992	5048	3.83	2.35	36.23	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Pittsburgh	1151	36.6	21.3	82.8	61.8	50.6	81	103	-20	1116	5905	4.07	2.37	36.92	10.25	.06	4.08	8.5	33.0	17.5	77	67	72	77	52	60	11.6	8.5	73	32	65	85	128	152	150	11	40	24	16	103	2
Pittsburg Allegheny	1252	38.0	22.7	83.4	63.3	51.9	c	c	c	1073	5555	3.84	2.35	36.49	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Reading CO	266	39.1	25.3	85.2	66.1	53.7	58	105	-14	1017	5060	4.43	2.68	40.02	14.85	.04	6.08	8.6	29.5	15.5	73	54	69	69	49	64	9.4	7.0	95	44	62	105	118	142	126	7	34	14	20	96	*
Scranton CO	746	35.4	21.0	83.2	61.9	50.1	c	c	c	1141	6047	4.43	2.02	36.61	c	c	c	c	c	c	80	N67	--	77	N50	--	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Scranton	940	34.3	19.5	83.0	61.4	49.3	55	103	-19	1181	6284	5.33	2.02	40.49	11.76	.08	5.09	9.8	41.1	20.0	--	--	--	--	--	--	7.4	5.7	56	37	65	83	131	151	137	13	31	7	9	118	2
Williamsport	527	36.0	20.9	85.2	61.4	50.7	60	106	-18	1132	5898	4.31	2.34	39.49	10.32	.16	5.22	9.9	36.5	13.7	78	64	71	84	51	65	---	---	---	---	---	70	116	179	130	9	---	---	19	129	4
RHODE ISLAND							68	102	-23							0.00	12.13																								
Block Island	110	38.0	25.7	75.3	62.9	49.9	75	95	-10	1026	5843	3.67	2.55	38.63	12.93	T	6.63	4.8	20.2	12.0	79	74	77	88	77	90	19.8	12.7	---	45	62	125	115	125	122	7	17	53	*	85	*
Providence CO (1952)	12	37.6	23.0	82.6	64.4	51.4	c	c	c	1076	5607	3.75	2.83	39.63	c	c	c	c	c	c	--	--	--	--	--	--	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Providence	55	36.8	20.6	80.0	61.9	49.4	51	102	-17	1125	6125	3.75	2.83	39.63	12.24	.04	6.17	9.5	32.4	15.0	73	59	66	80	57	73	11.8	9.0	95	49	63	126	113	126	121	10	21	14	9	106	2
SOUTH CAROLINA							71	111	-13							0.00	13.25																								
Charleston CO	9	59.0	43.8	88.0	75.0	66.6	85	104	7	445	1769	8.04	1.92	45.99	19.18	.01	10.57	T	.2	3.9	--	--	--	--	--	--	9.9	9.3	76	58	66	129	133	103	110	*	57	16	28	9	0
Charleston	41	61.4	39.2	89.4	70.8	65.2	15	---	---	472	1973	8.04	2.05	48.14	17.31	.04	----	---	---	---	87	56	76	88	64	82	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
Columbia CO	332	57.0	38.7	90.2	71.3	64.4	c	c	c	538	2284	5.74	2.00	41.58	c	c	c	c	c	c	c	c	c	c	c	c	8.2	7.0	54	c	c	c	c	c	c	c	c	c	c	c	c
Columbia	217	58.1	35.9	91.9	70.8	64.0	68	107	-2	566	2435	6.56	2.25	46.15	15.40	.04	7.40	.4	2.0	11.7	81	58	65	83	56	68	---	---	---	53	63	139	116	110	113	*	47	12	60	31	*
Florence	146	56.3	36.3	91.1	70.6	63.6	74	108	-1	588	2507	6.45	2.27	45.33	21.33	.00	9.15	.5	1.3	10.0	85	54	69	85	55	72	---	---	---	---	---	171	85	109	106	0	55	27	54	39	0
Greenville	1018	51.6	35.0	87.9	68.8	61.0	38	104	4	673	3060	4.81	3.00	47.65	13.36	.07	7.35	1.5	3.5	14.4	79	59	70	81	54	67	8.3	6.8	79	52	66	130	110	125	122	*	52	16	41	42	0
Spartanburg	801	52.1	34.7	88.7	69.1	61.2	25	104	5	670	3044	4.70	2.97	46.66	12.00	.04	6.85	1.1	3.2	11.2	--	--	--	--	--	--	---	---	---	---	---	114	121	130	110	*	47	20	53	50	0
SOUTH DAKOTA							66	120	-58							0.00	8.00																								
Huron	1282	24.8	2.1	89.5	61.3	45.7	74	111	-43	1597	7902	3.06	.45	17.54	11.56	T	4.07	6.1	30.1	15.1	76	72	72	81	52	49	10.8	10.0	73	55	76	134	127	104	94	13	38	8	25	169	35
Rapid City	3165	33.1	9.1	85.8	58.8	46.1	56	109	-33	1361	7535	3.36	.32	17.10	9.66	T	5.57	4.7	33.6	18.3	69	58	65	72	43	41	12.4	11.3	75	58	73	133	121	111	94	9	43	16	24	158	21
Sioux Falls	1420	24.4	4.0	87.9	61.6	45.8	63	110	-42	1575	7848	4.25	.67	25.24	9.42	.00	4.13	6.3	32.0	16.6	75	65	72	83	52	52	11.5	9.7	---	---	---	105	105	155	97	11	48	20	27	168	31
TENNESSEE							73	113	-32							0.00	11.00																								
Bristol	1519	48.5	28.6	85.5	64.0	56.4	18	102	-10	818	4148	5.14	2.39	41.24	9.73	.32	3.21	3.2	11.2	16.2	85	64	72	87	55	68	6.9	4.1	---	---	---	91	119	155	133	3	50	42	25	94	*

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

Table 10a - Continued

State and Station	Elevation ground (feet)	Temperature (°F) Normal (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length, yrs.	Record highest	Record lowest	Normal degree days (1921-1950) January	Seasonal	Precipitation (inches) Normal (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet, hail Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:30 a.m. EST	January 1:30 p.m. EST	January 7:30 p.m. EST	July 7:30 a.m. EST	July 1:30 p.m. EST	July 7:30 p.m. EST	Wind Speed (m.p.h.) Mean hourly January	Mean hourly July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max. 90° and above	Min. 32° and below	Min. Zero and below
TENNESSEE (Cont'd.)																																									
Chattanooga	670	51.6	31.6	89.6	67.0	60.0	77	106	-10	725	3384	6.05	2.69	53.60	15.29	0.04	7.61	2.1	5.9	12.0	79	62	68	83	56	67	7.6	5.5	82	43	61	115	132	118	132	3	58	26	40	51	*
Knoxville	950	49.8	31.1	89.1	67.6	59.3	85	104	-16	760	3590	4.83	2.53	45.51	17.32	.07	6.20	2.5	9.0	18.2	83	65	69	83	55	66	7.3	5.9	71	42	64	119	122	124	131	3	47	18	32	64	*
Memphis CO	271	49.3	34.5	89.4	73.2	62.4	c	c	c	716	3006	5.38	2.50	46.81	c	c	c	c	c	c	--	--	--	--	--	--	---	---	c	c	c	c	c	c	c	c	c	c	c	c	c
Memphis	263	50.3	32.9	91.1	71.3	61.8	81	106	-11	725	3137	5.58	2.55	49.42	18.16	.00	10.48	1.9	5.2	18.0	83	67	73	85	55	59	12.5	7.8	57	45	73	141	106	118	112	2	50	6	53	45	*
Nashville	577	48.9	30.9	90.6	69.3	60.1	85	107	-13	778	3513	5.28	2.52	45.03	14.75	.03	6.05	2.6	8.4	17.0	84	66	72	81	53	61	9.6	7.0	73	42	69	120	121	124	120	3	52	11	42	61	*
Oak Ridge CO	905	48.3	27.9	90.1	65.5	57.9	8	105	0	834	4028	6.06	2.42	53.72	13.27	.54	4.73	2.0	5.2	6.5	--	--	--	--	--	--	4.9	3.7	35	---	---	126	102	137	127	2	55	32	46	84	*
Oak Ridge Area	886	48.6	28.3	90.0	65.1	57.8	11	103	1	822	4006	5.64	2.77	52.38	12.84	.50	7.75	---	---	---	--	--	--	--	--	--	6.0	3.9	---	---	---	---	---	---	115	--	---	---	42	76	0
TEXAS							78	120	-23							0.00	34.50																								
Abilene	1759	55.1	31.4	94.6	71.5	64.1	70	111	-9	673	2657	3.68	.88	22.55	15.70	.00	6.78	1.4	3.7	8.0	73	50	55	74	39	40	10.5	9.8	109	58	79	157	110	98	67	*	41	1	94	42	*
Amarillo	3590	48.9	21.6	91.8	63.8	56.6	64	108	-16	921	4345	3.25	.62	21.12	9.81	.00	6.75	3.5	18.7	20.6	73	51	54	76	41	42	11.8	11.1	84	71	81	191	108	66	70	5	40	10	57	100	1
Austin	615	59.8	40.0	94.4	73.7	68.2	58	109	-2	484	1713	4.37	1.67	35.18	20.78	.00	19.03	.4	.9	9.7	83	63	64	88	50	51	8.8	7.8	57	46	76	144	112	109	77	*	40	20	105	19	*
Big Spring (1952)	2569	55.8	33.0	94.6	70.7	64.6	51	117	-7	639	2480	2.78	.60	17.39	12.89	.00	6.77	.8	2.7	3.5	--	--	--	--	--	--	--	---	---	---	---	175	109	81	54	1	40	11	110	65	*
Brownsville	16	68.9	52.0	91.8	75.7	73.6	74	104	12	219	617	6.27	1.14	29.55	30.57	.00	11.91	T	T	T	88	66	76	91	57	68	11.0	10.1	106	45	77	111	143	111	76	0	28	16	107	3	0
Corpus Christi	41	66.3	47.4	92.5	75.0	71.7	69	105	11	299	924	4.70	1.39	28.00	15.89	.00	8.26	T	T	5.0	85	70	77	89	63	73	10.9	12.2	110	48	85	125	124	116	79	*	32	16	38	4	0
Dallas	487	55.3	36.0	95.4	75.6	66.5	42	111	-3	607	2272	4.97	1.83	34.42	13.04	T	9.18	1.2	2.4	7.1	80	62	62	78	49	47	10.3	9.2	77	51	79	158	100	107	81	4	49	6	92	30	*
Del Rio	1091	62.2	41.6	93.3	76.1	69.8	50	111	11	419	1407	2.51	.80	18.58	13.71	.00	8.88	.4	.7	4.7	81	59	53	80	50	41	7.8	9.6	62	53	74	153	118	94	62	*	26	6	118	14	0
El Paso	3920	55.8	30.9	93.5	69.0	63.3	69	107	-6	670	2641	1.32	.27	7.83	8.18	.00	6.50	1.0	2.6	8.4	61	40	35	60	34	30	8.8	8.6	70	74	78	214	111	40	49	1	28	1	90	44	*
Fort Worth Meacham Fld	688	54.9	35.5	95.0	74.2	65.9	c	c	c	622	2361	4.84	1.75	32.29	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Fort Worth Amon Carter	544	54.9	35.6	95.2	74.9	66.0	57	112	-8	619	2338	4.92	1.88	33.69	17.64	.00	9.57	1.1	2.5	8.2	78	61	61	78	48	45	10.9	9.7	68	56	78	161	111	93	77	1	46	8	94	32	*
Galveston CO	7	59.8	49.2	87.4	78.6	70.1	85	101	8	356	1211	5.44	2.88	45.19	26.01	.00	14.35	T	.2	15.4	c	c	c	c	c	c	11.4	9.7	91	50	71	c	c	c	97	*	c	c	13	4	0
Galveston	5	60.4	48.2	88.7	77.9	70.1	16	- -	---	362	1233	5.82	3.14	47.98	20.57	T	----	---	---	---	87	77	83	84	69	74	---	---	---	---	---	143	124	98	---	--	49	19	---	---	--
Houston CO	41	61.9	45.7	92.3	75.2	70.0	66	108	5	378	1276	4.84	2.81	45.37	17.64	T	10.83	.1	.2	3.0	c	c	--	c	c	--	10.6	8.4	84	49	69	116	126	123	101	*	57	16	83	8	0
Houston	50	62.6	44.0	92.2	72.9	68.9	17	---	---	394	1388	4.91	2.70	46.93	22.31	T	----	---	---	---	85	66	73	90	58	66	---	---	--	--	---	---	---	---	---	--	---	---	--	--	-
Laredo	500	68.8	46.4	99.7	75.7	74.3	19	115	18	270	781	3.18	.85	19.49	8.62	.00	5.55	.1	.2	2.0	82	58	53	83	46	42	10.5	13.4	- -	---	---	129	125	111	55	*	30	11	178	6	0
Lubbock	3243	51.8	25.7	92.0	66.6	59.5	9	106	-9	812	3587	3.36	.53	18.89	7.80	.00	5.14	1.3	3.3	5.6	73	48	49	77	46	40	12.8	12.3	70	---	---	177	104	81	55	2	46	10	86	101	*
Midland	2854	56.6	31.8	94.2	69.7	64.2	26	109	-11	645	2565	2.14	.62	16.20	8.18	.00	----	1.2	2.7	---	--	--	--	--	--	--	---	---	---	---	---	---	---	---	48	1	---	---	107	64	*
Palestine CO (1952)	491	57.2	39.6	92.0	73.0	66.5	71	108	-6	531	1980	4.69	1.76	40.54	17.25	T	12.06	.8	1.8	9.0	82	64	65	87	54	58	8.0	6.2	45	46	79	132	123	110	94	1	46	12	73	22	*
Port Arthur CO (1952)	5	60.9	46.5	90.0	76.1	69.5	36	102	11	381	1340	6.48	3.25	53.24	24.25	.00	17.76	.2	.3	2.7	--	--	--	--	--	--	11.0	9.0	91	47	68	125	124	116	108	*	72	20	56	6	0
Port Arthur	16	61.7	44.0	90.7	72.6	68.1	11	102	13	406	1517	6.80	2.93	55.21	20.01	.00	9.41	.4	.4	1.8	91	71	82	93	64	73	11.2	7.5	---	---	---	108	132	125	102	*	73	47	80	11	0
San Angelo	1903	57.2	37.3	94.4	71.0	66.2	8	107	1	556	2107	2.96	.95	19.83	5.00	.00	4.65	1.4	2.0	5.1	70	47	43	73	42	37	10.5	9.5	60	---	---	167	98	100	49	1	39	4	114	40	0
San Antonio	792	60.9	40.3	95.1	73.2	68.8	71	107	0	462	1579	3.52	1.40	27.93	15.78	.00	7.08	.2	.4	5.0	79	61	59	86	50	49	8.4	8.0	74	48	74	129	130	106	83	*	35	17	107	13	*
Victoria	110	64.1	46.2	92.8	76.8	71.2	52	110	9	352	1126	4.13	1.97	35.66	16.48	.00	8.40	.2	.2	3.0	86	62	70	92	53	60	11.7	8.8	62	--	---	106	126	133	66	*	47	28	122	11	0
Waco	500	57.1	37.5	95.4	74.6	67.3	68	111	-5	557	2025	4.15	1.38	32.95	13.01	.00	7.18	.7	1.8	7.0	82	63	63	84	51	48	12.1	10.6	65	--	---	144	102	119	61	*	36	9	111	26	*
Wichita Falls	1020	51.7	29.4	94.8	72.7	63.1	12	110	-12	756	3025	3.86	1.31	26.64	11.86	.00	4.49	2.1	4.6	5.0	77	56	59	76	47	43	12.0	10.7	---	---	---	166	96	103	67	2	47	10	103	60	*
UTAH							65	116	-50							0.00	4.50																								
Blanding (1952)	6036	38.1	15.0	87.3	57.3	49.6	46	110	-23	1190	6138	1.47	.58	12.77	7.01	.00	----	---	---	---	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	-	---	---	---	---	--
Milford	5028	36.0	11.5	92.5	55.5	49.0	58	104	-34	1277	6445	1.06	.40	8.44	3.75	.00	1.92	7.8	34.4	16.3	83	70	70	60	28	26	11.5	9.0	---	---	---	161	104	100	58	13	31	7	55	180	16
Salt Lake City CO(1952)	4260	36.6	21.1	91.7	64.7	53.0	80	105	-20	1119	5463	1.91	.59	15.81	5.81	.00	2.72	12.5	55.1	15.3	--	--	--	--	--	--	---	---	---	---	---	---	---	- -	90	18	---	--	31	106	1
Salt Lake City	4220	35.9	17.0	92.3	60.8	51.3	27	106	-30	1194	5866	1.76	.61	14.74	4.90	.00	2.03	14.0	51.7	15.4	80	71	72	56	28	24	7.6	9.5	71	49	82	135	108	122	87	18	34	10	50	133	5
VERMONT							68	105	-50							0.00	8.77																								
Burlington	331	27.6	8.2	82.4	58.4	44.5	64	101	-29	1460	7865	3.75	1.53	32.22	11.54	T	4.49	15.0	65.4	24.2	81	69	78	76	54	67	11.7	8.3	72	34	62	71	107	187	147	20	27	11	4	148	19
VIRGINIA							65	110	-29							0.00	11.20																								
Cape Henry CO (1952)	16	49.4	35.5	84.8	70.6	59.7	79	104	5	698	3307	5.31	2.48	41.64	16.82	.00	7.18	2.0	7.1	12.0	80	69	76	82	68	80	13.1	9.6	134	50	67	131	117	117	119	3	39	23	19	37	0
Lynchburg	947	46.6	28.7	86.1	65.9	56.6	84	106	-7	846	4153	4.35	2.37	39.57	14.87	.03	7.59	4.3	14.0	16.4	74	58	67	80	56	69	8.3	6.6	62	48	68	127	133	105	124	4	36	22	32	78	*
Norfolk CO	11	50.7	35.4	86.7	70.7	60.7	c	c	c	679	3119	6.05	2.45	43.26	c	c	c	c	c	c	c	--	c	c	--	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Norfolk	26	50.0	33.0	86.0	68.9	59.2	85	105	2	729	3454	6.05	2.45	43.26	15.61	.04	6.84	2.6	8.7	17.7	79	61	71	81	60	76	11.8	9.6	80	50	66	129	115	121	124	3	39	16	26	41	0
Richmond CO	162	48.4	30.7	87.3	68.4	58.6	c	c	c	787	3720	5.38	2.41	42.17	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Richmond	162	48.1	28.4	87.8	67.2	57.7	58	107	g-3	828	3955	5.64	2.49	42.89	16.08	.11	8.79	3.6	12.5	17.2	84	60	68	81	56	72	8.2	6.5	68	49	66	131	112	122	122	4	41	18	33	71	*
Roanoke	1174	46.6	29.2	86.8	65.0	56.6	53	105	-12	840	4152	4.91	2.56	41.58	16.71	.16	6.00	4.4	15.1	8.2	75	56	65	81	52	66	9.1	4.4	---	---	---	105	120	140	122	5	44	28	34	85	0
WASHINGTON							89	118	-42							0.00	12.00																								
Ellensburg (1952)	1727	32.6	15.6	84.7	54.3	47.9	12	103	-28	1268	6542	1.47	.14	8.53	3.13	T	1.14	13.2	38.5	11.2	--	--	--	--	--	--	5.8	17.2	---	---	---	110	99	156	81	14	10	36	20	160	9
Kelso (1952)	17	43.6	31.1	75.8	50.2	50.7	6	96	-1	856	5239	6.74	.67	41.06	10.75	.05	3.06	10.3	16.9	7.7	89	84	80	93	65	56	---	---	---	---	---	57	83	225	161	5	---	---	3	75	*
North Head (1952)	194	46.5	38.0	61.2	53.4	50.7	65	97	11	704	5211	9.03	.85	54.34	22.28	.00	4.29	2.7	5.2	8.0	87	80	84	92	87	84	16.4	14.0	113	28	49	67	90	208	194	--	3	44	*	11	0
Olympia	190	43.3	30.6	76.3	49.2	50.0	14	103	-1	868	5501	8.66	.66	45.74	19.84	.00	4.93	8.7	17.0	13.7	92	88	82	92	62	47	6.8	5.0	---	---	---	52	96	217	161	6	4	91	5	88	*
Omak (1952)	1228	27.8	14.9	87.9	54.2	47.4	43	114	-26	1352	6806	1.52	.34	11.27	5.31	.00	2.21	8.6	29.3	---	--	--	--	--	--	--	---	---	---	---	---	---	---	---	59	--	---	---	---	-	--
Port Angeles (1952)	11	43.7	36.5	63.9	51.0	49.0	6	80	11	772	5850	4.34	.44	23.03	7.15	.09	3.34	6.3	9.4	5.6	82	78	77	89	79	76	9.7	13.8	---	---	---	62	84	219	141	5	4	40	0	16	0
Seattle CO	14	45.2	36.2	75.1	56.1	53.2	64	100	3	753	4438	5.34	.52	31.92	15.33	.00	3.52	5.0	11.2	21.5	--	--	--	--	--	--	10.2	7.9	65	25	64	74	106	185	152	3	5	24	1	20	0
Seattle	14	45.0	33.0	76.2	54.1	52.2	16	---	---	----	----	5.72	.58	34.28	15.43	T	----	---	---	---	86	81	74	86	63	48	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
Seattle Tacoma	376	43.0	31.4	75.0	52.8	50.7	11	96	0	862	5275	5.68	.58	33.80	12.92	.11	3.41	9.5	18.1	21.4	88	86	84	91	69	51	11.2	9.1	---	---	---	53	82	230	163	5	9	56	1	57	*
Spokane	2357	30.2	19.6	82.4	56.8	47.1	74	108	-30	1243	6852	2.21	.36	14.92	5.85	.00	2.22	12.7	38.9	13.0	85	80	76	64	39	24	6.4	6.8	56	26	82	96	104	165	112	13	11	19	19	116	4
Stampede Pass	3958	27.5	19.8	67.2	46.5	39.9	12	88	-11	1280	9149	14.66	1.29	93.60	29.06	.36	5.74	93.3	483.1	36.2	94	93	93	85	66	61	12.8	12.3	94	---	---	66	63	236	205	84	8	258	0	193	3
Tacoma CO (1952)	127	44.2	34.4	73.7	54.9	51.8	56	98	7	797	4866	5.90	.61	35.20	18.87	.00	3.79	5.7	12.1	16.0	92	82	81	87	61	50	7.9	7.6	61	21	61	73	107	185	150	4	5	30	*	32	0
Tatoosh Is. CO	101	44.9	39.0	59.2	51.7	49.3	66	88	7	713	5724	12.04	1.99	75.75	25.84	.01	5.91	3.8	8.0	13.8	85	83	83	94	89	87	19.9	9.7	94	26	47	61	83	221	198	2	4	50	0	7	0
Walla Walla CO	949	37.7	26.3	89.3	63.0	54.2	83	113	-29	1023	4848	1.86	.28	15.07	5.15	.00	2.74	8.4	21.6	14.0	82	N73	80	54	N29	24	5.5	5.6	70	24	84	128	106	131	108	9	9	13	34	68	1
Yakima	1061	35.9	17.8	89.9	52.9	50.2	46	111	-25	1181	5845	1.10	.18	7.21	3.75	.00	1.27	8.3	21.9	11.0	85	75	74	72	35	26	6.2	7.9	35	34	86	136	97	132	64	11	6	16	37	130	3

See reference notes at end of table.

Table 10a - Continued

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F) Normal (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length, yrs.	Record highest	Record lowest	Normal degree days (1921-1950) January	Seasonal	Precipitation (inches) Normal (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet, hail Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	July 7:30 a.m. EST	1:30 p.m. EST	7:30 p.m. EST	Wind Speed (m.p.h.) Mean hourly January	July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max. 90° and above	Min. 32° and below	Zero and below
WEST VIRGINIA							65	112	-37							0.00	19.00																								
Charleston	950	46.3	26.5	87.3	63.5	55.8	47	108	-17	887	4417	5.45	2.81	45.00	11.32	.00	3.70	4.9	16.9	15.1	78	64	69	88	52	66	9.2	5.9	55	---	---	65	116	184	152	7	48	110	32	101	*
Elkins	1970	42.8	21.5	82.5	57.4	50.4	57	99	-28	1017	5773	5.26	2.86	44.04	11.10	.26	5.45	10.8	47.6	18.8	82	65	77	94	61	76	6.3	3.7	72	33	56	72	116	177	171	20	46	68	3	131	4
Huntington CO	565	48.0	28.0	88.6	65.2	57.4	15	105	-10	837	4073	4.82	2.43	41.79	8.93	.22	4.23	5.2	16.3	10.3	--	--	--	--	--	--	---	---	---	---	---	---	---	---	134	--	---	---	50	100	1
Parkersburg CO	615	42.7	26.1	86.2	65.1	54.9	67	106	-27	949	4750	4.18	2.12	39.11	11.46	.07	4.81	6.7	25.4	18.3	82	N66	74	80	N52	67	7.3	5.1	66	29	63	110	103	152	143	6	42	11	23	97	2
Petersburg CO (1953)	1013	44.6	23.0	88.0	60.6	53.8	13	102	-14	967	4966	3.48	1.64	30.77	17.15	.36	7.41	5.9	20.7	11.6	76	51	60	90	53	68	---	---	---	---	---	83	105	177	125	6	40	36	34	116	1
WISCONSIN							65	114	-54							0.00	11.72																								
Green Bay	689	24.5	7.7	81.1	58.7	43.6	69	104	-36	1516	8259	3.57	1.26	26.51	9.70	T	4.41	10.7	44.0	20.0	76	67	73	78	55	59	10.4	8.7	109	44	70	84	116	165	120	13	32	25	7	152	21
La Crosse	652	25.0	6.3	85.1	62.8	46.2	83	108	-43	1528	7650	3.87	1.11	28.92	12.09	.01	7.23	10.6	42.8	13.1	82	70	76	85	58	60	9.0	7.5	69	48	73	107	118	140	117	12	36	18	14	157	29
Madison CO	938	26.7	11.8	82.2	64.0	46.9	87	107	-29	1417	7300	4.11	1.27	30.71	10.69	T	5.31	9.6	37.9	12.9	c	c	c	c	c	c	---	---	c	c	c	c	c	c	115	11	c	c	8	143	18
Madison	857	27.9	10.3	85.7	60.2	46.6	16	---	---	1423	7417	4.02	1.13	30.00	-----	----	-----	----	----	----	79	71	76	79	52	56	11.4	8.7	77	43	70	100	120	145	---	--	43	17	---	---	--
Milwaukee CO	620	30.0	16.0	80.1	64.4	47.7	c	c	c	1302	6944	3.36	1.42	28.87	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Milwaukee	672	29.2	14.5	81.2	61.4	46.8	85	105	-25	1336	7205	3.33	1.27	27.57	10.03	.05	5.76	12.3	45.8	20.3	76	68	74	75	59	65	12.2	9.0	73	44	73	108	119	138	122	13	33	18	8	129	13
WYOMING							96	114	-63							0.00	5.50																								
Casper	5322	31.8	12.8	86.3	55.8	45.1	16	104	-40	1324	7638	2.32	.65	14.09	5.75	T	3.09	10.0	70.4	20.6	67	56	60	65	31	26	18.2	10.5	---	---	---	106	117	142	92	22	39	6	26	174	16
Cheyenne	6131	37.1	13.8	82.6	53.6	44.9	83	100	-38	1225	7562	2.46	.52	16.25	7.66	.00	4.70	5.3	56.4	16.5	58	48	52	70	36	41	13.9	9.0	75	65	70	124	146	95	96	17	46	15	7	174	12
Lander	5563	28.0	5.6	84.4	56.3	43.2	64	102	-40	1494	8303	2.57	.49	14.18	7.19	.00	3.66	5.4	74.0	21.5	75	61	63	64	33	30	4.4	5.3	72	66	76	137	154	74	69	17	23	2	14	192	27
Rock Springs (1953)	6741	27.8	8.2	83.7	53.8	42.5	22	98	-33	1457	8473	1.10	.41	8.82	3.71	T	2.80	6.4	44.6	8.9	73	65	66	58	27	26	13.6	10.1	---	---	---	102	121	142	84	16	40	7	7	196	19
Sheridan	3942	32.8	7.4	86.1	55.0	44.5	48	106	-41	1392	7903	2.64	.61	16.75	9.54	T	4.41	9.6	59.0	26.7	73	61	66	73	37	35	6.0	5.7	84	56	76	121	125	119	106	25	35	3	25	185	28
PACIFIC AREA																					b	b	b	b	b	b															
Canton Island	9	88.0	78.0	90.0	78.4	83.7	9	98	70	----	----	3.78	.27	20.01	11.50	T	4.33	.0	.0	.0	80	79	66	80	79	65	---	---	---	---	---	86	194	85	97	0	4	0	187	0	0
Koror CO	94	85.0	75.4	85.2	75.8	80.9	6	93	69	----	----	18.81	7.68	147.98	27.46	1.65	11.57	.0	.0	.0	87	92	80	90	92	81	4.3	3.0	---	---	---	5	98	262	284	0	46	0	67	0	0
Ponape CO	112	86.4	76.0	88.0	72.7	81.0	5	96	68	----	----	19.66	7.87	182.44	33.04	3.32	6.98	.0	.0	.0	85	--	77	96	--	80	---	---	---	---	---	5	87	273	301	0	26	0	54	0	0
Truk, Moen Island	8	85.3	76.5	86.6	74.0	80.8	5	94	70	----	----	13.46	6.63	131.91	24.14	.84	10.44	.0	.0	.0	82	84	78	88	90	81	---	---	---	---	---	11	74	280	284	0	15	0	*	0	0
Wake Island	11	81.1	73.8	86.3	77.6	79.9	8	91	64	----	----	8.90	1.26	41.30	19.54	.34	E15.00	.0	.0	.0	75	76	67	81	82	73	13.3	12.1	---	---	---	129	156	80	194	0	5	0	3	0	0
Yap CO	53	85.4	76.1	87.6	75.7	81.6	7	97	70	----	----	16.60	4.71	122.14	29.44	1.08	8.87	.0	.0	.0	85	87	78	89	91	78	10.0	4.2	---	---	---	13	85	267	259	0	10	0	71	0	0
HAWAII							51	100	18							0.00					b	b	b	b	b	b															
Hilo	31	78.4	62.4	82.6	67.0	73.0	9	93	55	----	----	15.99	6.75	139.98	50.82	.36	13.41	.0	.0	.0	85	81	70	88	83	69	6.0	5.5	---	48	45	23	118	224	287	0	8	0	*	0	0
Honolulu CO	12	76.7	67.2	82.2	73.5	75.2	51	88	56	0	0	4.31	.63	23.92	18.36	.06	13.52	.0	hT	hT	--	--	--	--	--	--	z9.1	z10.0	z62	z62	z67	z108	z178	z79	152	0	---	---	0	0	0
Honolulu	7	78.6	65.8	84.6	73.0	75.9	9	---	---	----	----	4.65	.23	21.70	-----	----	-----	----	----	----	80	80	62	74	69	56	10.0	13.7	59	69	70	110	160	95	---	--	0	8	---	---	--
Lihue	115	77.4	62.7	82.4	72.4	74.0	5	87	51	----	----	6.23	1.65	42.49	18.45	.66	11.20	.0	hT	hT	83	84	68	81	77	66	10.6	12.9	43	48	56	53	172	140	209	0	10	0	0	0	0
CARIBBEAN																																									
St. Croix (1953)	53	82.5	69.1	88.2	75.5	79.1	6	95	62	----	----	5.84	2.05	42.35	15.23	.17	7.76	.0	.0	.0	76	66	80	77	70	84	12.7	13.0	---	---	---	39	216	110	196	0	43	0	27	0	0
Swan Island (1954)	28	82.5	73.3	87.4	77.4	80.7	12	92	64	----	----	9.25	1.00	53.82	27.61	.02	10.77	----	----	----	b80	b72	b80	b85	b75	b81	10.5	9.4	40	---	---	95	159	111	157	0	45	0	19	0	0
PUERTO RICO							56	103	40							0.00																									
San Juan CO	47	79.6	70.2	84.2	75.7	78.0	57	94	62	0	0	6.51	2.42	60.00	16.88	.05	10.55	.0	.0	.0	c	c	c	c	c	c	c	c	c	c	c	c	c	c	210	0	50	0	9	0	0
San Juan	9	80.1	69.5	86.0	75.0	78.1	--	---	---	----	----	7.49	2.78	67.80	-----	----	-----	----	----	----	81	71	77	78	76	82	12.3	13.2	E149	64	65	94	195	76	---	--	---	---	---	---	--
Santa Isabel (1953)	28	83.0	64.9	86.9	72.0	76.7	8	96	57	----	----	4.54	.48	32.66	12.37	.05	6.62	.0	.0	.0	78	59	76	61	58	67	6.7	7.4	---	---	---	105	175	85	99	0	70	0	35	0	0
ALASKA (Northern)							69	100	-76							0.00																									
Anchorage	92	20.4	5.5	65.4	49.1	35.3	33	86	-38	1612	10789	2.71	.40	14.27	5.91	.00	1.79	11.2	59.5	17.7	75	75	73	85	74	62	5.2	5.5	66	40	47	74	88	203	102	21	1	25	#14	202	35
Barrow	22	-8.5	-21.6	46.0	33.3	10.1	35	78	-56	2483	19994	.83	.10	4.11	2.44	.00	1.00	2.1	26.2	15.0	64	65	63	96	92	89	10.8	11.8	70	---	---	d64	d53	d180	66	3	*	61	#*	323	168
Bethel	10	14.6	-1.1	62.4	46.6	29.6	32	90	-52	1804	12880	4.02	.55	18.17	12.37	T	2.40	8.6	50.7	18.7	80	80	79	94	88	71	11.0	9.1	---	---	---	55	66	244	154	25	2	26	#12	231	73
Fairbanks	436	-.3	-19.2	70.5	51.2	26.2	26	93	-66	2319	14158	2.26	.29	11.92	6.88	T	2.33	13.5	59.6	15.5	68	68	68	88	72	52	3.3	5.8	60	34	45	72	91	202	111	18	9	19	#48	231	120
King Salmon	49	21.7	6.5	62.6	46.6	34.1	12	---	---	----	-----	4.01	.84	22.46	6.44	.00	----	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	---
Kotzebue	10	.6	-13.7	58.5	46.7	20.6	13	82	-48	2220	16151	1.95	.27	8.02	5.18	T	1.80	4.1	37.4	8.6	70	70	70	90	86	79	15.0	13.1	---	---	---	84	71	210	117	12	*	22	#5	253	119
McGrath	334	1.1	-18.5	68.0	49.3	25.5	15	89	-64	2285	14390	3.63	.49	19.13	6.26	.01	2.39	15.0	87.8	15.2	71	69	71	88	76	58	2.6	5.3	---	---	---	64	69	232	143	22	5	10	#28	230	113
Nome	13	12.9	-1.7	55.4	43.8	26.3	39	84	-47	1841	14086	3.76	.59	18.69	8.43	.00	2.30	10.3	63.2	14.0	77	80	76	91	87	83	10.7	9.4	75	44	32	97	77	191	133	20	1	20	#3	241	81
Northway	1713	-8.5	-25.7	69.8	48.5	22.4	13	88	-72	2545	15506	2.89	.22	11.34	6.42	T	3.91	7.3	37.8	11.5	68	68	66	87	67	50	3.0	5.9	---	---	---	45	84	236	101	11	12	17	#37	246	136
ALASKA (Southern)							72	99	-51							0.00	10.94																								
Annette	110	38.6	30.5	62.5	51.0	45.6	15	90	-4	942	7096	14.38	4.49	96.59	31.98	.62	5.62	12.5	42.7	14.2	79	78	74	93	81	75	14.1	8.7	---	---	---	38	67	260	220	13	1	18	#15	78	*
Cold Bay	93	33.5	24.7	54.4	45.5	38.4	9	---	---	----	-----	4.38	1.34	33.20	9.97	.02	----	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	--
Cordova	40	32.4	17.6	60.1	46.4	38.6	12	84	-33	1240	9615	15.56	4.19	98.64	27.72	.08	7.92	27.5	117.8	17.2	82	82	82	91	89	81	4.8	3.1	---	---	---	57	50	258	217	38	*	10	#8	193	23
Galena (1952)	120	-.9	-17.7	69.2	51.0	25.2	5	87	-64	2303	14538	2.84	.18	14.62	4.45	.08	2.34	8.8	51.2	9.0	69	70	69	82	73	59	6.0	8.2	---	---	---	72	77	216	126	17	5	11	#23	232	113
Juneau CO	72	33.5	25.5	61.9	50.1	42.5	--	---	---	1101	8187	13.03	4.13	90.25	-----	----	----	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	---	---	---	---	---
Juneau	15	31.2	21.1	62.4	47.0	40.6	12	83	-21	1203	8888	8.47	2.98	55.94	13.29	.27	4.66	17.3	83.9	31.0	80	80	78	88	78	68	8.7	7.1	68	27	28	43	40	282	221	23	*	21	#21	146	10
St. Paul Island	22	29.9	22.9	49.3	42.4	35.2	38	64	-26	1197	10839	3.49	1.02	24.24	9.32	.08	1.93	13.3	55.4	13.0	87	86	85	95	96	93	19.5	11.0	114	---	---	25	70	270	203	19	*	38	#0	188	4
Yakutat	28	33.0	19.9	58.6	46.8	39.3	9	84	-22	1194	9354	19.93	4.96	134.15	36.45	.52	5.32	41.9	209.8	26.0	80	81	79	97	85	80	9.4	7.1	---	---	---	42	47	276	225	48	1	30	#5	173	13

Data from airport or from airport and city office records combined.
CO after station name indicates city office data.
Data for this table are based on records through 1955 except as indicated in notes.
Date in Parenthesis after station name indicates last year included in summarization of data.
Normal values are based on the period 1921-1950, and are means adjusted to represent observations taken at the present standard location.
Degree days are based on a daily average of 65°F.
Snowfall totals include sleet and hail beginning with July 1948.

Fastest mile is the speed of the mile of wind recorded in the shortest time on an automatic recording wind instrument.
A clear day averages 0-3 tenths sky cover, partly cloudy 4-7 tenths, and cloudy 8-10 tenths.
Heavy fog includes data formerly referred to as "Dense" or "Thick." The upper visibility limit for heavy fog is 1/4 mile.

- * Less than one half
- - Data not available
- † Airport data
- # Number of days Maximum 70°F or above (Alaskan stations)
- E estimated during hurricane or typhoon
- N computed as of noon local time
- T trace, an amount too small to measure
- a 21 day months used
- b relative humidity recorded 30 minutes earlier
- c airport and city office records combined
- d sun below horizon November 18 - January 24
- e extremes exceeded in cooperative station records
- g city office data through 1952; record lowest at airport -12°F Jan. 1940.
- h snow has not been observed
- i interpolated or visual observation data
- m mean degree days, 12 years of record
- s no record of sleet or glaze
- t data for period through 1942
- x data for period through 1952
- y data for years through 1953
- z data for years through 1954

ELEVATIONS–STATION PRESSURE

Table 10b

State and station	Ft.
ALABAMA	
Birmingham	700
Mobile	221
Montgomery	202
ARIZONA	
Flagstaff	7018
Phoenix	1107
Prescott	5022
Tucson	2555
Winslow	4883
Yuma	141
ARKANSAS	
Fort Smith	463
Little Rock	357
Texarkana	368
CALIFORNIA	
Bakersfield	492
Bishop	4145
Blue Canyon	5283
Burbank	725
Eureka CO	60
Fresno	327
Los Angeles CO	512
Los Angeles	104
Mt. Shasta CO	3587
Oakland	7
Red Bluff	353
Sacramento	25
Sandberg	4523
San Diego	87
San Francisco CO	--
San Francisco	18
Santa Maria	238
COLORADO	
Alamosa	7543
Colorado Springs	6170
Denver	5292
Grand Junction	4602
Pueblo	4690
CONNECTICUT	
Bridgeport	17
Hartford	159
New Haven	13
DELAWARE	
Wilmington	80
DISTRICT OF COLUMBIA	
Washington CO	---
Wash. Nat'l. AP	112
FLORIDA	
Apalachicola	35
Daytona Beach	41
Fort Myers	12
Jacksonville CO	---
Jacksonville	31
Key West CO	21
Lakeland CO	
Miami CO	---
Miami	25
Miami Beach	----
Orlando	119
Pensacola CO	56
Tallahassee	68
Tampa	35
West Palm Beach	21
GEORGIA	
Athens	811
Atlanta	1173
Augusta	182
Columbus	394
Macon	370
Rome	643
Savannah	65
IDAHO	
Boise	2739
Idaho Falls CO 46W	4939
Idaho Falls CO 42NW	---
Lewiston	1436
Pocatello	4478
ILLINOIS	
Cairo CO	357
Chicago	623
Moline	606
Peoria	609
Springfield	636
INDIANA	
Evansville	431
Fort Wayne	857
Indianapolis	823
South Bend	773
IOWA	
Burlington	702
Des Moines	860
Dubuque	699
Sioux City	1138
Waterloo	878
KANSAS	
Concordia CO	1392
Dodge City	2509
Goodland	3688
Topeka	987
Wichita	1358
KENTUCKY	
Lexington	989
Louisville	525
LOUISIANA	
Baton Rouge	76
Lake Charles	32
New Orleans CO	53
New Orleans	3
Shreveport	249
MAINE	
Caribou	628
Portland	103
MARYLAND	
Baltimore CO	
Baltimore	123
Frederick	
MASSACHUSETTS	
Blue Hill. Obs.	640
Boston	124
Nantucket	12
Pittsfield	1169
MICHIGAN	
Alpena	609
Detroit	730
Detroit (Willow Run)	777
East Lansing CO	
Escanaba CO	612
Flint	766
Grand Rapids	707
Marquette CO	734
Muskegon	633
Sault Ste. Marie	614
MINNESOTA	
Duluth	1133
International Falls	1126
Minneapolis	919
Rochester	1021
St. Cloud	1043
MISSISSIPPI	
Jackson	331
Meridian	375
Vicksburg CO	247
MISSOURI	
Columbia	784
Kansas City	963
St. Joseph	- --
St. Louis CO	564
St. Louis	564
Springfield	1324
MONTANA	
Billings	3570
Glasgow	2086
Great Falls	3657
Havre	2507
Helena	4123
Kalispell	----
Miles City	---
Missoula	3263
NEBRASKA	
Grand Island	1856
Lincoln CO	-
Norfolk	1551
North Omaha	1323
North Platte	2821
Omaha	1105
Scottsbluff	3958
Valentine CO	2590
NEVADA	
Elko	5078
Ely	6262
Las Vegas	1869
Reno	4527
Winnemucca	4339
NEW HAMPSHIRE	
Concord	289
Mt. Washington	6262
NEW JERSEY	
Atlantic City CO	52
Newark	30
Trenton CO	190
NEW MEXICO	
Albuquerque	4972
Clayton	5052
Raton	6376
Roswell	3566
NEW YORK	
Albany	97
Binghamton	1638
Buffalo	768
New York Central Park	156
New York CO	314
New York	52
Rochester	523
Schenectady	217
Syracuse	596
NORTH CAROLINA	
Asheville	-
Charlotte	779
Greensboro	886
Hatteras CO	11
Raleigh	376
Wilmington	38
Winston-Salem	978
NORTH DAKOTA	
Bismarck	1677
Devils Lake CO	1478
Fargo	940
Williston CO	1878
OHIO	
Akron	1052
Cincinnati CO	627
Cincinnati Obs.	---
Cincinnati	877
Cleveland	762
Columbus CO	---
Columbus	822
Dayton	1003
Sandusky CO	629
Toledo	692
Youngstown	1186
OKLAHOMA	
Oklahoma City	1214
Tulsa	674
OREGON	
Astoria	22
Burns	4162
Eugene	373
Meacham	4056
Medford	1329
Pendleton	1495
Portland	154
Roseburg	510
Salem	201
Sexton Summit CO	3841
PENNSYLVANIA	
Allentown	385
Harrisburg	378
Philadelphia CO	-
Philadelphia	114
Pittsburgh CO	- --
Pittsburgh	842
Reading CO	323
Scranton	948
Shippingport CO	-- -
Williamsport	525
RHODE ISLAND	
Block Island	118
Providence	159
SOUTH CAROLINA	
Charleston CO	--
Charleston	59
Columbia	217
Florence	151
Greenville	1040
Spartanburg	824
SOUTH DAKOTA	
Huron	1301
Rapid City	3259
Sioux Falls	1427
TENNESSEE	
Bristol	1525
TENNESSEE (Cont'd.)	
Chattanooga	762
Knoxville	980
Memphis CO	
Memphis	399
Nashville	546
Oak Ridge	911
TEXAS	
Abilene	1738
Amarillo	3676
Austin	605
Brownsville	57
Corpus Christi	20
Dallas	512
Del Rio	944
El Paso	3778
Fort Worth	576
Galveston CO	- -
Galveston	54
Houston CO	138
Houston	62
Laredo	418
Lubbock	3241
Midland	2862
Port Arthur	34
San Angelo	1908
San Antonio	693
Victoria	117
Waco	508
Wichita Falls	1030
UTAH	
Milford	5097
Salt Lake City	4357
VERMONT	
Burlington	403
VIRGINIA	
Lynchburg	937
Norfolk	30
Richmond	164
Roanoke	1176
WASHINGTON	
Olympia	200
Seattle CO	----
Seattle	388
Seattle-Tacoma	----
Spokane	1929
Stampede Pass CO	3967
Tatoosh	86
Walla Walla CO	991
Yakima	1076
WEST VIRGINIA	
Charleston	989
Elkins	----
Huntington CO	-- -
Parkersburg CO	637
WISCONSIN	
Green Bay	617
La Crosse	672
Madison	974
Milwaukee	681
WYOMING	
Casper	5290
Cheyenne	6144
Lander	5352
Sheridan	3790
PACIFIC AREA	
Canton Island	11
Hilo, T.H.	36
Honolulu, T.H.	15
Koror, CO	109
Lihue, T.H.	148
Majuro	10
Ponape CO	151
Truk (Moen Island)	8
Wake Island	13
Yap CO	56
WEST INDIES	
San Juan CO	---
San Juan, P.R.	62
ALASKA	
Anchorage	132
Annette	110
Barrow	13
Bethel	38
Cold Bay	103
Cordova	40
Fairbanks	454
Juneau	24
King Salmon	49
Kotzebue	16
McGrath	338
Nome	22
Northway	1721
St. Paul Island	28
Yakutat	31

These are the elevations to which station pressure values in Table 2, monthly Climatological Data, National Summary, pertain. They are the elevations (in feet above mean sea level) of the barometer as of January 1, 1900, or at the time of establishment of station subsequent to that date. Average monthly station pressures continue to be reduced to these elevations to provide homogeneity of data over a long period of time.

GENERAL SUMMARY OF TORNADOES—1955

Compiled by L. V. Wolford

U. S. Weather Bureau, Washington, D. C.

The number of tornadoes reported in the United States and its possessions during 1955 exceeded any previous yearly total in the 40 years that these storms have been tabulated by the Weather Bureau. Eight hundred and seventy were recorded on 170 days and tornadoes occurred during each month of the year. Of this high total, however, 242 were funnel clouds which remained aloft; 38 were waterspouts, 6 of which reached land causing some property damage; and 4 were reported as dust devils, of which one caused only slight damage but injured 2 persons. In addition to the 242 funnel clouds which failed to reach the ground, and the 32 nondamaging waterspouts and 3 dust devils, 52 other tornadoes either struck momentarily without causing damage or occurred over undeveloped areas, thus leaving a total of 541 damaging tornadoes during the year. Four of the year's tornadoes crossed State boundaries. The 1955 total of 125 lives lost was greater than last year and 13 other previous years, but 102 of these deaths resulted from 3 tornadoes on May 25 in Kansas and Oklahoma. Nine hundred and fifty persons were injured during the year, 566 of them on May 25 in 7 tornadoes in Kansas, Oklahoma, and Texas.

Tornadoes were reported in 42 states and Hawaii during 1955, the 2 occurrences in Hawaii being in the form of waterspouts which moved in from the sea over Hilo causing some damage. The District of Columbia, Alaska, the West Indies, and the 6 states of California, Maryland, Nevada, Oregon, Washington, and West Virginia had no tornadoes. The 204 recorded in Texas during the year was the greatest number ever reported in any state for any year, but 86 of these were funnel clouds aloft, 11 were waterspouts, and 1 was reported as a dust devil. Kansas was second with 146 such storms, 64 of which were funnel clouds that failed to reach the ground. Oklahoma followed with 135, 53 being funnels which remained aloft. The number reported in the 3 states of Texas, Kansas, and Oklahoma accounted for over one-half of the total number for the entire country. Of the states visited by these storms, the least number occurred in Delaware, Maine, New Jersey, New Mexico, New York, Rhode Island, and Virginia with only one each.

As was the case last year, June with 262 tornadoes again exceeded May which is usually the month of maximum occurrence of these storms. Tornado activity was greatest on June 4, when 55 were reported in the states of Kansas, Oklahoma, Texas, Nebraska, and Colorado. May, with 219, was second in the number for a month; and April, with 120, was third. The monthly minimum number of 2 was reported in January.

Of the 125 fatalities occurring during 1955, 103 resulted from the May storms on 2 days, the 6th and 25th. The tornadoes at Udall, Kans., and at Blackwell, Okla., on May 25 were responsible for 100 of these deaths. Two more deaths occurred in Oklahoma on that date and 1 in Texas on the 6th. No lives were lost during January, February, August, and December; so the remaining 22 of the year's total were spread over the other 7 months. Deaths occurred in 12 states, with Kansas reporting the greatest number, 81, and Oklahoma following with 23.

The estimated property damage of $33,975,700 for the United States was greater than last year, but was considerably less than in 1953 and slightly under the 1952 total. Nearly one-half of the estimated 1955 property destruction occurred during May. Losses of $14,140,200 during that month resulted mainly from the 2 very destructive tornadoes at Blackwell, Okla., where losses totaled over $8,000,000 and at Udall, Kans., with damage of $2,225,000. In April, the second highest monthly loss of $6,548,000 occurred, of which nearly $4,000,000 resulted from 2 tornadoes in Texas. March was in third place with damage of $4,934,000. June reported losses in excess of $3,000,000, July over $2,000,000, and November nearly $1,500,000. The least monthly amount of destruction resulted from the January tornadoes. Oklahoma losses for the year estimated at $9,124,200 exceeded all other states in the destruction of property and accounted for over one-fourth of the nation's total. The Texas losses of $6,488,000 placed that state second, followed by Kansas with losses of $3,064,000, and Indiana with $2,792,000. The combined damage in these 4 states was over 63 percent of the country's losses. Property valued at over $1,000,000 was destroyed also in each of the states of Minnesota, Tennessee, Illinois, and Ohio. In 8 states and Hawaii where tornadic disturbances were reported, damage was of a minor nature. The 2 storms in Maine and Rhode Island which were classed as dust devils caused no damage. Estimated but light losses were reported in Idaho and New Jersey and damage of under $5,000 each was listed in Virginia, New Hampshire, Delaware, New Mexico, and Hawaii; the damage in the latter Territory was the result of 2 waterspouts which moved onto the island from the sea.

The most destructive tornado of the year in regard to the amount of property lost was the one at Blackwell, Okla., on May 25 where damage was placed at $8,015,000, 20 persons were killed, and 80 others injured. However, the Udall, Kans., storm on the same date which caused damages of $2,225,000 resulted in a higher death toll (80) and a greater number of personal injuries (270). Two other single tornadoes resulted in property losses of $1,000,000 or more during 1955. One occurred on April 6 in Fannin and Grayson Counties, Tex., where losses were estimated at $2,850,000, with the death of 1 person and injuries to 44 others. Also in Texas, a tornado in Jones and Throckmorton Counties on April 5 caused an estimated $1,000,000 damage and 6 personal injuries. Storms in Indiana on March 3 and in Minnesota on July 7 resulted in over a $1,000,000 damage in each state, 1 death, and 16 injuries, but it is believed that these losses were the result of several tornadoes in each state. Fifty-four other tornadoes caused damage of $100,000 or more each.

Of the 813 tornadoes on which the time was given, 683 (84 percent) struck between noon and midnight during 1955, the greatest activity being between 5 and 6 p.m. Over one-half (54 percent) occurred between 3 and 8 p.m. Only 16 percent were reported in the a.m. hours, with the least frequency between 6 and 7 a.m. Eighty percent of the tornadoes reported between midnight and noon occurred in the south.

Following the usual pattern, the prevailing direction of movement of the 1955 tornadoes was from the southwest to the northeast, with over 58 percent traveling in that direction. About 21 percent came from the west and approximately 8 percent from the northwest; thus about 87 percent came from a general westerly direction. See the tornado rose for 1955 presented in Figure 1.

Tornado paths have averaged about 13 miles in length and 295 yards in width during the 40-year period, 1916-1955. In 1955 the paths averaged about 10 miles long and 245 yards wide, both below the 40-year mean. Data regarding the lengths of paths of over one-half of the year's tornadoes were not obtained probably because many were funnel clouds that failed to reach the ground. Of the 274 storms for which the lengths of paths were given, 59 were designated as short and 46 more had paths of less than 1/2 mile. The greatest number, 175, traveled for distances of from 1/2 mile to 10 miles, 69 moved over paths of 10 to 30 miles, and 25 exceeded 30 miles, 3 even exceeded 100 miles. The 2 longest paths (150 miles each) were reported in Indiana. However, the one on March 3 which moved across northern Indiana from near the western border to the Fort Wayne area may not have been a continuous path. The other 150-mile path traversed 5 Indiana counties on May 28. A tornado on April 21 traveled across 6 counties in Mississippi for a distance of 120 miles. The narrowest path reported during the year was 5 yards wide in the tornado of October 28 in Calhoun County, Arkansas.

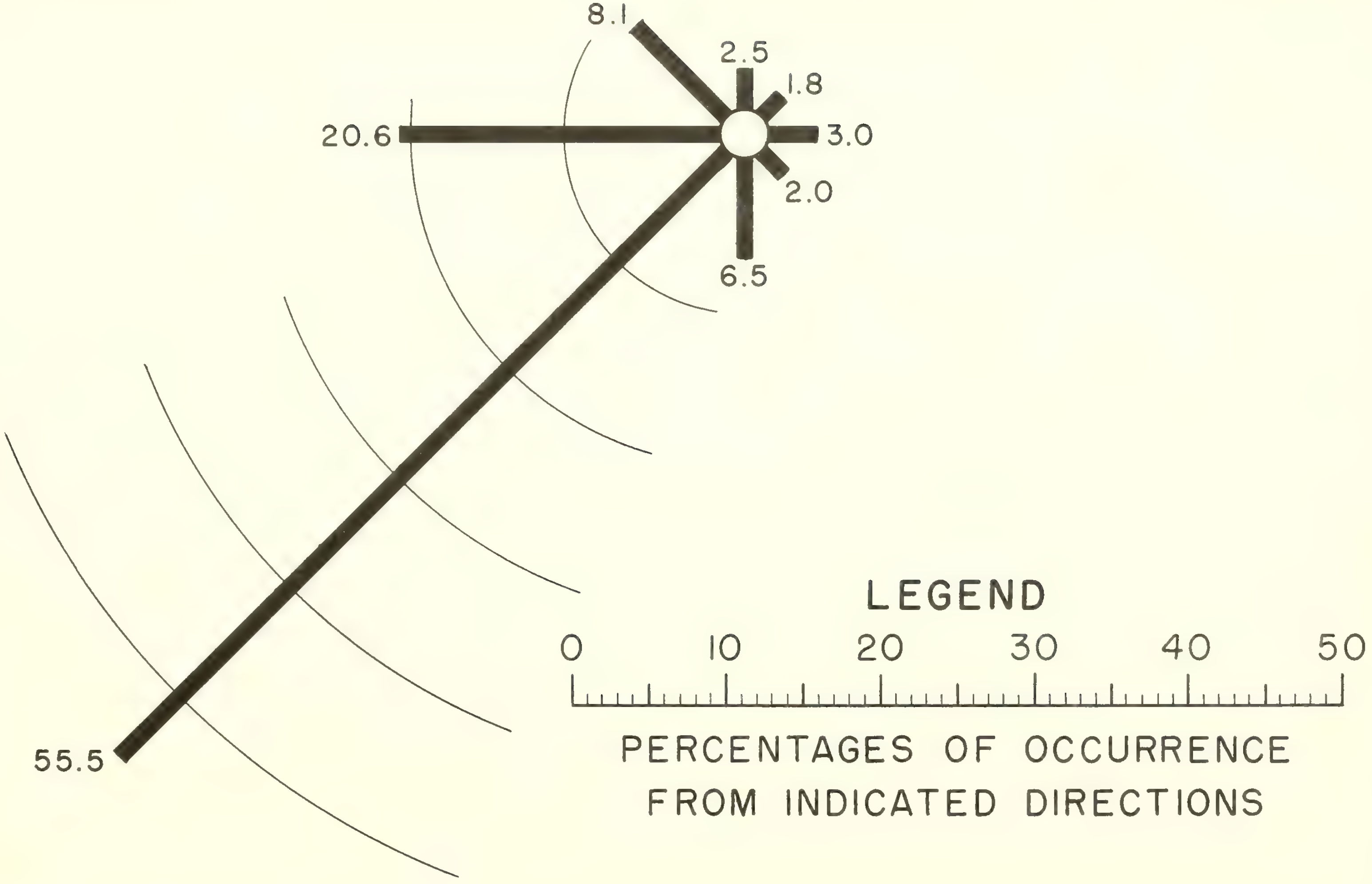

FIGURE 1.—TORNADO ROSE FOR THE UNITED STATES, GIVING THE PERCENTAGE OF TORNADOES MOVING FROM THE INDICATED DIRECTIONS DURING 1955.

Table 11

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
ALABAMA										
1. March 21	12:30 p.m.	Colbert	NE	5	200	0	1	$20,000	$0	Suspected tornado. 2 houses destroyed, 1 house and 1 cotton gin damaged. Moved from Allsboro to Chisca, where transfer truck overturned.
2. April 21	8:10 a.m.	Dallas	ENE	1 1/2	50	0	1	20,000	0	Suspected tornado at Selma. Path not continuous; jumped about a mile. Telephone poles downed; 1 building destroyed.
3. April 24	5:45 a.m.	Lawrence and Morgan	E	12	200	5	20	100,000	500	Tornado began 4 miles west-northwest of Pine Grove and ended near northeast town limits of Falkville. No damage in first 4 miles of path. In remaining 8 miles of path trees felled and 2 houses about 700 yards apart on each side of path damaged, but not leveled. Fallen trees outside of path of destruction thrown toward south on left, and toward northeast on right. Tornado moved a few miles southeast of thunderstorm. Crop loss consisted of small grains frazzled and shredded, other losses included $1,700 of livestock.
4. Oct. 16	6:05 p.m.	Coffee	E	10	150	0	0	2,000	300	Tornado began over wooded area in Pea River Valley. Skipping path, with most damage along right side of path, indicating wider path and relatively not very strong tornado. See remarks on storms #5 and #6 below.
5. Oct. 16	6:15 p.m.	Coffee	E	12	150	0	0	22,000	1,700	Tornado hit intermittently along slightly widening and weakening path extending from about 5-1/2-airline miles southeast of Elba to 3 miles east of Enterprise. Direction of movement initially eastward, but curving slightly so that at end of path it was moving east-southeastward. In latter portion of path, damage confined mostly to right side of path. See remarks on storm #6 below.
6. Oct. 16	6:40 p.m.	Coffee and Dale	E	3	100	0	6	1,000	0	Storm hit briefly only twice, apparently with only right side hitting ground to cause narrow strips of broken and fallen trees and building damage less than 100 yards wide. Tornadoes formed on south side of thunderstorm and made paths diverging about 15 degrees from path of thunderstorm. Beginning of first tornado was about 35-airline miles west-southwest of ending of last one.
ARIZONA										
1. June 13	10 a.m.	Maricopa	(1)	(1)	(1)	0	0	(1)	(1)	Several funnel clouds from 1 main cloud north of White Tank Mountain.
2. June 13	4:30 p.m.	Maricopa	(1)	(1)	(1)	0	0	8,000	0	Possible tornado at Queen Creek damaged buildings.
3. July 25	10 a.m.	Cochise	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Douglas.
ARKANSAS										
1. Feb. 19	7:10 p.m.	Nevada	NE	1	200	0	0	2,800	0	Occurred in eastern suburbs of Prescott. Accompanied by light hail.
2. Mar. 20	12:30 p.m.	Logan	ENE	10	50-70	0	0	5,600	0	Touched ground 3 times as it passed over Paris, to north of Subiaco, and to Cross Roads community near Scranton. Damage to church buildings at Paris estimated at $5,000. Damage in Cross Roads community $600.
•3. Mar. 20	3:30 p.m.	Craighead and Mississippi	ENE	38	250	0	1	13,000	0	Originated near Otwell, Craighead County, and crossed into Missouri at point north of Leachville, Mississippi County. Struck in or near Otwell, Valley View, Poplar Ridge (west of Monette), and north of Leachville. 18 homes

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
ARKANSAS (Cont'd)										reported damaged in Craighead County estimated at $12,000; 1 home and 2 other buildings damaged in Mississippi County estimated at $1,000.
4. Apr. 4	8 p.m.	Carroll	NNE	10	50	0	0	$6,300	$0	Accompanied by hail in area of Green Forest, and to west for several miles near Berryville. 6 barns destroyed, several smaller buildings damaged, and trees downed.
5. Apr. 21	1:41 a.m.	Jefferson	ENE	1/2	80	1	2	10,000	0	At Whitehall, house demolished, killing 1 person and injuring 2. Other buildings damaged and trees uprooted.
6. Apr. 22	5 p.m.	Randolph	NE	1	200	0	0	6,000	0	10 houses damaged, 4 buildings destroyed, and 4 damaged near Biggers.
7. May 10	3:30 p.m.	Jackson	ENE	(1)	(1)	0	0	0	0	Funnel aloft reported near Swifton.
8. May 10	4:50 p.m.	Mississippi	E	5	(1)	0	0	150,000	0	At Blytheville, principal damage to grandstand which was demolished. Funnel observed by several persons.
9. May 10	Late afternoon	Johnson	(1)	(1)	(1)	0	0	(2)	0	A number of residents of Jamestown community reported seeing small tornado dip several times before hitting dwelling, twisting it on its foundation.
10. May 20	1 p.m.	Woodruff	NE	3	80	0	0	5,000	2,000	Near Grays, 1 house destroyed, several unroofed; small grains blown down.
11. May 26	4:45 p.m.	Garland and Saline	NE	30	500-1,500	0	3	200,000	(2)	Principal damage in Blakely community, 1 mile from Jessieville where 23 homes damaged; some damage in Jessieville. Considerable damage to timber.
12. May 26	5:20 p.m.	Perry	NE	5	880	0	0	10,500	0	Storm struck 4 miles north of Crossroads; 11 barns hit, 5 destroyed, roofs of 8 houses damaged or destroyed, and 2 garages unroofed.
13. May 26	8:20 p.m.	Woodruff and Jackson	NE-N	8	(1)	0	7	(2)	(2)	Storm moved from Fitzhugh to near Weldon; 6 houses destroyed, 25 damaged, 12 other buildings destroyed, and 27 damaged.
14. June 10	4:15 p.m.	Poinsett	E	1/2	200-300	0	0	300	0	Struck 3 miles northeast of Marked Tree. Funnel cloud observed. Large limb blown onto truck, damaging hood and fender. Roof lifted off pumphouse and shingles torn from house.
15. Oct. 28	9:05 a.m.	Calhoun	NE	1/2	5	0	0	2,000	0	Storm struck Hampton; extensive damage to cotton gin and minor damage to 20 other buildings.
16. Oct. 28	10 a.m.	Desha	NE	1	100	0	1	20,000	0	Struck Kelso. Cotton gin and seed house destroyed, houses damaged, and trees uprooted.
17. Nov. 2	11-11:45 a.m.	Van Buren	ENE	30	40-100	0	5	15,000	0	Storm moved from Dabney to Clinton Mountain to north of Shirley. Funnel observed by several persons. At Dabney 2 persons injured and damage estimated at $5,000; at Clinton Mountain 3 persons injured and damage estimated at $10,000.
18. Nov. 15	3:17-4 p.m.	Cleburne and Independence	NE	36	100-150	1	4	280,000	(3)	Funnel observed by many. Struck Heber Springs at 3:17 p.m., and last seen in Wycough Township, north of Newark. American Red Cross reported: Cleburne County, 7 homes destroyed, 107 damaged, 4 buildings destroyed, 40 damaged; Independence County, 22 homes destroyed, 29 damaged, 18 buildings destroyed, and 22 damaged. At Heber Springs, 1 person injured and proproperty damage estimated at $150,000; in Floral area, 1 person injured and property damage $20,000; in Hutchinson area, 1 death, 2 injuries, and several thousand dollars property damage; at Huff and near Rosie, property damage $60,000; at Magness, property damage $40,000.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path miles	Width of path yards	Number of persons Killed	Number of persons Injured	Estimated damage Property exclusive of crops	Estimated damage Crops	Remarks
ARKANSAS (Cont'd)										
19. Nov. 15	3:20 p.m.	Perry	NE	1 1/2	75	0	0	$50,000	$500	Struck town of Casa. 2 homes destroyed, 13 damaged; 2 buildings destroyed, and 3 damaged. Funnel observed by several. Roar heard 25 miles to southwest of Casa.
20. Nov. 15	5 p.m.	Cleburne	(1)	(4)	(5)	0	0	10,000	0	Struck 4 miles southwest of Heber Springs. Tree blown on automobile, then tree picked up and blown away; 2 barns destroyed.
21. Nov. 15	6:05 p.m.	Lawrence	NE	4	(1)	0	0	60,000	0	Struck Alicia, where American Red Cross reported 9 homes destroyed, 6 damaged, 12 buildings destroyed, and 8 damaged.
22. Nov. 15	7:30 p.m.	Washington	NE	15	220	0	1	10,000	0	Passed through rural area to north of Elkins and south of Goshen.
23. Nov. 15	(1)	Newton	(1)	(1)	(1)	0	0	200	0	Struck sparsely settled area near Buffalo Tower. 1 home damaged.
CALIFORNIA										
(None reported)										
COLORADO										
1. Apr. 12	(1)	Washington	SE	(1)	(1)	0	0	10,000	0	Occurred at Otis.
2. May 9	(1)	Weld	(1)	1/10	100	0	0	500	0	Damage to small farm buildings at Platteville.
3. May 12	P.m.	Boulder	(1)	1/8	150	0	0	5,000	0	Roofs torn from small buildings, and flying debris damaged 1 automobile at Longmont.
4. May 14-15	(1)	(1)	SE	(1)	(1)	0	0	6,000	2,000	Gusty winds with several twisters in eastern Colorado.
5. May 14-15	(1)	(1)	SE	(1)	(1)	0	0			
6. June 4	11:20 a.m.	Lincoln	E	(1)	(1)	0	0	0	0	Occurred over wasteland in southwestern part of County. Funnel cloud touched ground several times, but no damage resulted.
7. June 18	12:30 p.m.	Phillips	E	3/4	80	0	0	250,000	0	Buildings destroyed and livestock killed at Haxtun.
8. June 19	5:30 p.m.	Baca	E	(1)	(1)	0	0	0	(3)	10 miles northwest of Campo, funnel
9. June 19	5:30 p.m.	Baca	E	(1)	(1)	0	0	0	(3)	dropped from cloud, touched ground;
10. June 19	5:30 p.m.	Baca	E	(1)	(1)	0	0	0	(3)	3 other small funnels occurred which
11. June 19	5:30 p.m.	Baca	E	(1)	(1)	0	0	0	(3)	were reported to have touched ground.
12. June 26	P.m.	Weld	(1)	(1)	(1)	0	0	(2)	(2)	Suspected tornado in Briggsdale, Cornish, and Osgood areas.
13. June 27	4 p.m.	Weld	NE	(1)	(1)	0	0	(1)	(1)	Suspected twister in Greeley area.
14. June 27	4 p.m.	Weld	NE	(1)	(1)	0	0	(1)	(1)	Suspected twister in Greeley area.
15. July 2	Evening	Adams	(1)	(1)	(1)	0	0	(2)	0	Farm buildings and equipment damaged over small area 15 miles east of Brighton.
16. July 8	8 p.m.	Morgan	E	(1)	(1)	0	0	7,000	0	Occurred in Fort Morgan-Brush area.
17. July 10	4 p.m.	Alamosa	SE	(1)	(1)	0	0	1,000	0	Drive-in theatre, several farm buildings, and trees damaged in Alamosa.
18. July 10	8 p.m.	Weld	N	5 1/2	(1)	0	0	5,000	(3)	Damaged trees, transmission lines, antennas, and small buildings in Ault-Platteville-Eaton area.
19. July 31	(1)	Costilla	(1)	1/2	100	0	0	1,000	0	Razed several small buildings, damaged trees, and killed some poultry at Fort Garland.
CONNECTICUT										
1. Oct. 24	5:30-5:40 p.m.	New Haven	N	1/2	200	0	0	2,500	0	Storm struck in Naugatuck. Trees toppled; 6 chicken houses containing 2,000 chickens and several hundred turkeys lifted and smashed against barn.

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
CONNECTICUT (Cont'd)										
2. Oct. 24	5:35-5:36 p.m.	Hartford	(1)	1/2	(1)	0	0	$5,000	$0	Storm struck farm in Glastonbury and lasted only a minute. Destroyed 2 large tobacco sheds, house under construction, and small barn; also damaged chimney and antenna, ripped up a number of large trees and snapped utility wires.
DELAWARE										
1. Aug. 12	4 p.m.	Sussex	WNW	3	50	0	0	3,000	0	At Bethany Beach, tree tops twisted off and walls collapsed outward on 1 building.
FLORIDA										
1. Jan. 18	10:30 p.m.	Orange	N and NE	6 150	50	0	0	0	(2)	Woodsmere, 4 miles northwest of Orlando, trees uprooted and broken including grapefruit trees.
2. Feb. 17	2:13 p.m.	Leon	(1)	(1)	(1)	0	0	0	0	Funnel cloud 5 miles east of Tallahasse reported by aircraft.
3. Apr. 2	7 p.m.	Broward	NE	(4)	(5)	0	0	400	0	Destroyed small barn and unroofed tool sheds at Dania.
4. Apr. 10	8:45 p.m.	Escambia	NNE	5	175	0	0	5,000	0	One house demolished and several others damaged at Ensley.
5. May 30	4:45 p.m.	Palm Beach	(1)	(1)	(1)	0	0	0	0	Reported by aircraft pilot as touching ground 5 miles south of South Bay.
6. June 1	2:10 p.m.	Palm Beach	(1)	(1)	(1)	0	0	0	0	Waterspout 8 miles southeast of West Palm Beach.
7. June 1	4:45 p.m.	Monroe	WNW	3	35	0	0	0	0	Path over uninhabited islands and bays near Pelican Key.
8. June 7	6:20 a.m.	Dade	(1)	(1)	(1)	0	0	0	0	Funnel cloud 10 miles north-northeast of Miami.
9. June 17	11:15 a.m.	Palm Beach	E	(1)	(1)	0	0	0	0	2 small funnel clouds 5 miles south of West Palm Beach. Under observation 10 minutes.
10. June 17	11:15 a.m.	Palm Beach	E	(1)	(1)	0	0	0	0	
11. June 18	11 a.m.	Palm Beach	(1)	(1)	(1)	0	0	0	0	2 waterspouts under thunderstorm cloud observed from West Palm Beach.
12. June 18	11 a.m.	Palm Beach	(1)	(1)	(1)	0	0	0	0	
13. June 21	4 p.m.	Dade	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft 7 miles north of Miami.
14. June 29	6:47 p.m.	Monroe	(1)	(1)	(1)	0	0	0	0	Waterspout reported by aircraft pilot as 10 miles south of South Riding Rock.
15. July 5	4:06 p.m.	Manatee	(1)	(1)	(1)	0	0	0	0	Waterspout 3 miles east of north end of Anna Maria Island.
16. July 5	4:30 p.m.	Hillsborough	(1)	(1)	(1)	0	0	0	0	Funnel cloud north-northwest of Tampa Airport.
17. July 14	12:05 p.m.	Palm Beach	(1)	(1)	(1)	0	0	0	0	Waterspout just offshore of West Palm Beach.
18. July 28	6:31 p.m.	Palm Beach	(1)	(1)	(1)	0	0	0	0	Funnel cloud 6 miles north-northwest of West Palm Beach Airport.
19. July 28	(1)	Dade	(1)	(1)	(1)	0	0	0	0	Funnel cloud northwest of Miami Airport.
20. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0	5,500	0	10 waterspouts over Lake Okeechobee. 1 moved ashore to unroof store and snap utility pole.
21. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
22. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
23. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
24. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
25. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
26. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
27. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
28. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
29. July 29	5 p.m.	Palm Beach	E	(4)	(5)	0	0			
30. Aug. 2	P.m.	Palm Beach	(1)	(1)	(1)	0	0	(2)	0	Waterspouts over southeastern Lake Okeechobee in afternoon and early evening. Some property damage at Belle Glade perhaps due to tornado.
31. Aug. 2	P.m.	Palm Beach	(1)	(1)	(1)	0	0	(2)	0	
32. Aug. 3	6:58 p.m.	Palm Beach	(1)	(1)	(1)	0	0	0	0	Funnel cloud observed east of Palm Beach Airport.
33. Aug. 5	9:38 a.m.	Palm Beach	(1)	(1)	(1)	0	0	0	0	Waterspout near West Palm Beach, apparently on shore of Lake Worth.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
FLORIDA (Cont'd)										
34. Aug. 15	9:05 a.m.	Volusia	(1)	(1)	(1)	0	0	$0	$0	Waterspout 15 miles north of Daytona Beach.
35. Aug. 20	2:10 p.m.	Highlands	(1)	(1)	(1)	0	0	0	0	Funnel cloud 3 miles northeast of Lake Istokpoga.
36. Sept. 2	Afternoon	Lake	(1)	(1)	(1)	0	0	0	0	Waterspout over lake 3 miles east of Eustis.
37. Sept. 2	(1)	Palm Beach	(1)	(1)	(1)	0	0	0	0	Waterspout 12 miles south-southeast of West Palm Beach Airport.
38. Sept. 23	4:55 p.m.	Sarasota	(1)	(1)	(1)	0	0	0	0	Aircraft pilot reported tornado reaching ground 20 miles southeast of Sarasota.
39. Oct. 13	Afternoon	Broward	(1)	(4)	(5)	0	0	(2)	0	Wrecked 150-foot shed at lumber plant at Pompano Beach.
40. Oct. 29	Noon	Manatee	E	(4)	(5)	0	0	(2)	0	Small buildings unroofed and carports wrecked on Longboat Key.
41. Nov. 4	(1)	Jackson	(1)	(1)	(1)	0	0	(2)	0	1 home destroyed and 7 damaged.
GEORGIA										
1. Apr. 2	4:30-5 p.m.	Dodge and Laurens	E	5-6	50	0	0	8,000	0	2 separate funnels observed to move in zig-zag course along same general path from point east of Plainfield to about 5 miles south of Cadwell, lifting and hitting again several times.
2. Apr. 2	4:30-5 p.m.	Dodge and Laurens	E							
3. Apr. 2	Afternoon	Appling	ENE	5	(1)	0	0	10,000	0	Described locally as small tornado near Baxley. Considerable timber blown down and 1 tobacco barn destroyed.
4. Apr. 2	Afternoon	Tift	NE	4	800	0	0	5,000	0	Struck rural section about 5 miles north of Tifton. Large house lifted from foundation.
5. Apr. 2	5:20 p.m.	Coffee	E	1/4	300	0	1	50,000	0	Several buildings in business section and residential section of Broxton damaged.
6. Apr. 2	9:25 p.m.	Chatham	NNE	5	200	0	0	30,000	0	Moved through northeastern part of Savannah in dipping-lifting motion, striking surface at about 5 different points with varying amounts of damage.
7. Apr. 13	7:50 p.m.	Wayne	N	(4)	600	0	0	4,000	0	Funnel-like cloud at Jesup reached ground at only 1 point.
8. Apr. 14	5:15 a.m.	Wilcox	E	1/2	100	0	0	1,500	0	Suspected tornado 2 miles north of Rochelle.
9. May 8	5 p.m.	Thomas	E	(4)	(5)	0	0	2,500	0	Occurred at Thomasville. Damage mainly due to falling trees and loss of timber.
10. May 21	2:12 p.m.	Bibb and Jones	ENE	20-30	100-750	0	2	500,000	(3)	Storm noted near Lizella, moved through Macon, and into extreme southern Jones County. Funnel-shaped cloud observed by several persons, touched ground only in spots. Many buildings including children's home damaged.
11. May 22	8:30 a.m.	Floyd	N	(4)	(5)	0	0	2,500	0	Damage in small area in western part of Rome.
12. May 24	5 p.m.	Cobb	ENE	5	300	0	0	50,000	0	Moved through southern and eastern parts of Marietta, causing damage to many business buildings in shopping center.
13. May 24	8:30 p.m.	McDuffie	E	1	50	0	0	4,000	1,000	Passed just south of Thomson.
14. Aug. 22	5 p.m.	Spalding	NE	3-4	400	0	0	500	0	Suspected small tornado in Rehobeth community. Damage very localized.
15. Aug. 22	Afternoon	Dougherty	(1)	(4)	100	0	0	(3)	0	In southwestern part of County, tornado passed over farmhouse, dipped into pecan grove, twisting and splintering branches; lifted again passing to southeast of second farmhouse.
16. Oct. 28	Night	Miller	(1)	(1)	(1)	1	2	(3)	0	Passed 8 miles south of Colquitt. Woman killed and both parents injured when tree blown onto house.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Remarks
IDAHO										
1. June 15	10:30 a.m.	Camas	(1)	(1)	(1)	0	0	$0	$0	2 small funnel clouds aloft sighted in western part of County.
2. June 15	10:30 a.m.	Camas	(1)	(1)	(1)	0	0	0	0	
3. June 29	1:42 p.m.	Bonneville	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft sighted about 4 miles west of Idaho Falls.
4. Aug. 25	1 p.m.	Bannock	NE	(1)	(1)	0	0	0	0	Funnel cloud aloft seen by several persons in Pocotello.
5. Aug. 25	Night	Madison	(1)	(1)	(1)	0	0	(3)	0	Twister damaged lumber storage building in Rexburg.
ILLINOIS										
1. Mar. 3	3:15 p.m.	Cook	E	(1)	(1)	0	0	0	0	Funnel cloud aloft observed.
2. Mar. 4	9:30 p.m.	Union	NE	1/2	50	0	0	25,000	5,000	Storm hit eastern edge of Anna, then orchard to northeast. Rotating pattern evident in grass and dust.
3. Apr. 18	6:45 p.m.	Carroll	E	8	75	0	0	200,000	0	6 miles northwest of Lanark, 4 farms damaged. Car carrying 2 persons carried 100 feet and dropped right side up without damage to occupants.
4. Apr. 18	9 p.m.	Kane, Du Page, and Cook	E	13	(1)	0	3	150,000	0	Damage at St. Charles, Des Plaines, Lincolnwood, Park Ridge, and Evanston. $25,000 damage to airplanes.
5. Apr. 23	2 a.m.	Adams and Brown	ESE	15	(1)	0	0	100,000	5,000	Damage occurred at Clayton, Mt. Sterling, and Timewell.
6. Apr. 23	7:30 p.m.	Hancock	NE	7	(5)	0	0	20,000	1,000	Damage in rural area at Durham.
7. Apr. 24	2:40 p.m.	Cook	(1)	(1)	(1)	0	0	0	0	Funnel clouds aloft observed in Greater Chicago area, at Lemont, Elmhurst, and Aurora.
8. Apr. 24	4:05 p.m.	Du Page	(1)	(1)	(1)	0	0	0	0	
9. Apr. 24	4:20 p.m.	Kane	(1)	(1)	(1)	0	0	0	0	
10. May 26	11:50 a.m.	Adams	NE	1 1/2	500	0	0	20,000	2,000	Some damage sustained to 80 percent of buildings in village of Coatesville.
11. May 26	2:49 p.m.	Tazewell	NE	1	800	0	1	75,000	0	Struck in southeastern residential area of Pekin.
12. May 26	4 p.m.	Cook	NE	1 1/2	100	0	2	50,000	1,000	Struck to southwest of residential areas of Chicago.
13. May 26	4:30 p.m.	Kankakee and Will	NE	19	400	0	0	50,000	20,000	Developed in northern edge of Kankakee County, then moved into Will County.
14. Aug. 21	6:15 p.m.	De Witt	NE	2	500	0	0	5,000	2,000	Struck rural area near town of Clinton.
15. Aug. 29	5:30 p.m.	Champaign	NE	(4)	(5)	0	0	0	0	2 funnel clouds observed to touch ground just north of Chanute Air Force Base near Rantoul.
16. Aug. 29	5:30 p.m.	Champaign	NE	(4)	(5)	0	0	0	0	
17. Aug. 29	6 p.m.	Morgan	NE	15	100	0	2	60,000	10,000	Developed 13 miles southwest of Jacksonville, with major damage to dwellings in northwest corner of Jacksonville.
18. Oct. 6	4:45 p.m.	St. Clair and Madison	ENE	15	50	0	[illegible]	100,000	1,000	Storm moved from East St. Louis to Troy.
19. Oct. 6	5:05 p.m.	St. Clair	ENE	(1)	(1)	0	0	25,000	1,000	Farm buildings demolished near Scott Air Force Base. Damage by falling trees and limbs to property in Belleville.
20. Oct. 6	5:15 p.m.	Washington	(1)	(1)	10	0	0	25,000	(1)	Damage occurred in Nashville, Addieville, and Okawville.
21. Oct. 6	7 p.m.	Shelby	E	1	(1)	0	0	4,000	(1)	Farm buildings demolished on 3 farms 3 miles north of Sigel.
22. Nov. 15	3 p.m.	Champaign	(1)	(1)	(1)	0	0	30,000	(2)	Small tornado passed through Longview, carrying 20-by 30-foot building 1/4 mile.
23. Nov. 15	3:30 p.m.	Randolph	E	5	880	0	0	(2)	(2)	Struck just east of Schuline, moved to southeast of Sparta.
24. Nov. 15	3:35 p.m.	Montgomery	(1)	(1)	(1)	0	0	(2)	(2)	Probable tornado destroyed barn near Hillsboro.
25. Nov. 15	4:45 p.m.	Christian	(1)	(1)	1,000	0	0	(2)	(2)	Farm buildings demolished at Pana.
26. Nov. 15	5 p.m.	Vermilion	NNE	1/8	(5)	0	0	(2)	(2)	Struck farm 2 miles east of Jamaica.

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path miles	Width of path yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
ILLINOIS (Cont'd)										Damaged listed under storm #22 resulted from all tornadoes on 15th in Illinois.
27. Nov. 16	2:20 a.m.	Union	ENE	5	150	0	0	$200,000	$8,000	Tornado moved from southwestern Jonesboro through southern edge of Anna to rural area eastward.
28. Dec. 3	4 p.m.	Brown and Cass	NE	26	75	0	0	35,000	300	Path from 6 miles northeast of Mt. Sterling to Beardstown.
29. Dec. 3	8 p.m.	La Salle, Livingston, and Grundy	NE	50	(1)	0	0			Path from Dana to 5 miles west of Gardner. Damage listed above resulted from both tornadoes on 3d.
INDIANA										
1. Mar. 1	1:30 a.m.	Lawrence	E	1 1/2	300	0	0	22,000	0	In rural area barns, houses, and small buildings damaged or destroyed.
2. Mar. 3	3:30-9 p.m.	Lake, Porter, La Porte, Marshall, Kosciusko, Whitley, and Allen	ESE	150	900	0	3	1,250,000	0	Damaging windstorms from Chicago area to Fort Wayne with evidence of tornadic action.
3. Mar. 11	2 a.m.	Randolph	E	(1)	(1)	0	0	20,000	0	Damage occurred near Ridgeville.
4. Mar. 11	2 a.m.	Randolph	E	18	500	0	2	100,000	0	Damage occurred near Union City.
5. Mar. 11	3 a.m.	Shelby, Rush, Fayette, and Union	E	40	880	0	5	500,000	0	Tornado moved from Morristown through Connersville to Brownsville.
6. Mar. 22	3:30 a.m.	Marion	NE	3	10	0	0	10,000	0	Garage and 2 chickenhouses destroyed, house unroofed, and trees blown over at Indianapolis.
7. May 28	8:15-11:30 a.m.	Miami, Grant, Wabash, Huntington, and Allen	NE	150	100	0	3	600,000	0	Windstorm with evidence of tornadic action. Residents of Converse, Miami County, which was heavily damaged described storm as sounding like approaching freight train. No funnel reported, but witnesses reported watching buildings shiver from force of wind, then collapse to ground.
8. June 11	3:15 p.m.	Owen	(1)	(1)	(1)	0	0	5,000	0	Small tornado in southeastern portion of County destroyed barn and damaged trees and utility poles.
9. July 8	4 p.m.	Huntington	SE	(1)	15-20	0	0	3,000	0	East of Bowerstown, fruit trees damaged and uprooted.
10. Oct. 6	7:30 p.m.	Wells	NE	1/2	(1)	0	0	5,000	0	At Bluffton, roofs lifted from 2 barns, orchards and other trees damaged, and 1 outbuilding carried away.
11. Nov. 15	7:20 p.m.	Vanderburg	NE	1-2	50	0	9	175,000	0	In Evansville area, 5 homes demolished and about 70 damaged.
*12. Nov. 15	7:45 p.m.	Randolph	NE	20	400	0	7	35,000	1,000	5 miles west of Lynn, home demolished, injuring all occupants. Crossed into Ohio.
13. Nov. 15	10:35 p.m.	Marion	ENE	1/20	10	0	2	46,000	0	At Indianapolis, garage demolished, large brick building partially unroofed, and other buildings damaged.
14. Nov. 15	Evening	Knox	(1)	(1)	(1)	0	0	15,000	0	In Decker area, barn damaged and windows in homes broken.
15. Nov. 15	Early evening	Warrick	(1)	(1)	(1)	0	0	5,000	0	At Boonville, barn blown down and tractor knocked off road.
IOWA										
1. Apr. 3	7-7:15 p.m.	Page	NNW	1/2	440	0	0	2,300	0	Funnel cloud moved across town damaging buildings and blowing car from highway at Clarinda.
2. Apr. 4	5 p.m.	Dallas and Boone	NE	10	440	0	0	10,000	0	Tornado moved from 2 miles east of Minburn to 7 miles north of Woodward. Farm buildings and contents damaged.
3. Apr. 19	5:30-6 p.m.	Jackson	E	6	50	0	0	13,500	0	Tornado 1-1/2 miles south of Zwingle demolished buildings and tore up trees.
4. Apr. 19	9 p.m.	Clay	NNE	2 1/2	100	0	0	3,000	0	Damaged several buildings in southeastern corner of Spencer.

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
IOWA (Cont'd)										
5. Apr. 23	1:10 p.m.	Page	N	1 1/2	30	0	0	$15,000	$0	Destroyed buildings on 2 farms and damaged others 2-1/2 miles south of Coin.
6. Apr. 23	4 p.m.	Ringgold	NE	5	440	0	0	20,000	0	From Benton to south of Diagonal, farm buildings destroyed.
7. May 6	4:15 p.m.	Shelby	ENE	20	200	0	0	27,000	0	Destroyed buildings on outskirts of Harlan.
KANSAS										
1. Apr. 10	2:48 p.m.	Saline	NNE	(1)	(1)	0	0	0	0	At Salina, funnel aloft observed briefly.
2. Apr. 12	2 p.m.	Hodgeman	SW	5	(1)	0	0	600	0	Funnel observed west of Jetmore 30 minutes prior to main storm; touched ground.
3. Apr. 27	5:20 p.m.	McPherson	NE	8	100	0	0	25,000	0	Northeast of McPherson, 6 farmsteads damaged; all water sucked out of pond. 1 of tornadoes which developed along 130-mile line from Harper County to Dickinson County.
4. Apr. 27	5:30 p.m.	Harvey	NE	2	(1)	0	0	6,000	0	2 farmsteads damaged at Burrton. 1 of tornadoes which developed along 130-mile line from Harper County to Dickinson County.
5. Apr. 27	5:30 p.m.	Saline	NE	1/4	(1)	0	0	0	0	Funnel traveled along river bottom southeast of Salina. 1 of tornadoes which developed along 130-mile line from Harper County to Dickinson County.
6. Apr. 27	5:45 p.m.	Sedgwick	(1)	(1)	(1)	0	0	0	0	At Cheney, very narrow funnel withdrew into cloud base and disappeared in about 15 minutes. 2 additional funnels aloft; developed along 130-mile line from Harper County to Dickinson County.
7. Apr. 27	5:45 p.m.	Sedgwick	(1)	(1)	(1)	0	0	0	0	
8. Apr. 27	5:45 p.m.	Sedgwick	(1)	(1)	(1)	0	0	0	0	
9. Apr. 27	5:50 p.m.	McPherson	NE	10	300	0	0	25,000	0	Northeast of Canton, 3 farmsteads and 1 cemetery damaged. 1 of tornadoes which formed along 130-mile line from Harper County to Dickinson County.
10. Apr. 27	6 p.m.	Harper	(1)	(1)	(1)	0	0	0	0	Funnel reported between Harper and Anthony. Southernmost tornado which developed along 130-mile line from Harper County to Dickinson County.
11. Apr. 27	Evening	Dickinson	(1)	(1)	(1)	0	0	(2)	0	Farm buildings damaged near Talmadge. Northernmost tornado which formed along 130-mile line from Harper County to Dickinson County.
12. May 3	7:20 p.m.	Shawnee	NE	(1)	(1)	0	0	0	0	At Topeka 3 separate funnels seen to develop and dissipate in 10 minutes.
13. May 3	7:20 p.m.	Shawnee	NE	(1)	(1)	0	0	0	0	
14. May 3	7:20 p.m.	Shawnee	NE	(1)	(1)	0	0	0	0	
15. May 5	4:15 p.m.	Reno	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed at Hutchinson.
16. May 9	5 p.m.	Barton	NE	(1)	(1)	0	0	2,100	0	Small tornado destroyed sheds and killed 125 chickens 15 miles west-southwest of Great Bend.
17. May 11	8 a.m.	Montgomery	NE	(1)	(1)	0	0	0	0	Funnel cloud visible west-northwest of Coffeyville.
18. May 11	1 p.m.	Montgomery	(1)	(1)	(1)	0	0	0	0	Funnel observed west of Coffeyville; not known to have touched ground.
19. May 11	2:20 p.m.	Montgomery	(1)	(1)	(1)	0	0	✓7 300	0	Rural buildings damaged northeast of Independence.
20. May 11	6:43 p.m.	Crawford	NE	1	(1)	0	0	10,000	0	Property damaged on 3 farms about 5 miles southeast of Girard.
21. May 13	2:48 p.m.	Haskell	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed 50 miles south of Garden City.
22. May 18	4:21 p.m.	Kearny	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft sighted near Lakin.
23. May 18	5:10 p.m.	Sedgwick	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed 10 to 15 miles northwest of center of Wichita.
24. May 23	4:28 p.m.	Sedgwick	NE	(1)	(1)	0	0	0	0	Funnel cloud dissipated over southern part of Wichita.

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
KANSAS (Cont'd)										
25. May 23	7:14 p.m.	Neosho	(1)	(1)	(1)	0	0	$0	$0	Funnel cloud aloft observed north of Chanute.
26. May 25	7:40 p.m.	Ellis	(1)	(1)	(1)	0	1	2,500	0	Farm buildings damaged north of Antonino.
27. May 25	10:15-10:35 p.m.	Sumner and Cowley	N - ENE	45	440-880	80	270	2,225,000	(2)	Tornado followed swinging, slightly east of north, course from south of Ashton across extreme eastern Sumner County to Udall, Cowley County, thence east-northeastward to Rock and lifted near Atlanta. Farmsteads sustained heavy damage. Town of Udall practically destroyed. Cross-country velocity of tornado about 39 m.p.h. 5 children in 1 family, 2 miles north of Oxford, killed. 75 deaths at Udall, also all of injuries.
28. May 26	12:27 a.m.	Osage, Jefferson, Leavenworth, and Atchison	NE	(1)	(1)	0	0	200,000	0	Tornado damage occurred intermittantly from near Osage City to near Overbrook, Williamstown, Tonganoxie, Lowemont, Potter, Millwood, and Leavenworth.
29. May 26	1 p.m.	McPherson	NE	(1)	(1)	0	0	0	0	Tornado cloud sighted north of McPherson.
30. May 26	5:30 p.m.	Doniphan	NE	7	(1)	0	1	20,000	0	Destruction began 9 miles southeast of Troy and extended across southeastern part of County. Numerous rural buildings damaged or destroyed.
31. May 26	6:30 p.m.	Bourbon	(1)	(1)	(1)	0	0	(1)	(1)	Tornado cloud observed at Fort Scott.
32. May 26	Evening	Cherokee	E	(1)	(1)	0	0	0	0	Funnel touched ground west of Baxter Springs.
33. May 27	2:30-2:55 p.m.	Phillips	NE	(1)	(1)	0	0	0	0	Funnel sighted touching ground 6 miles northwest of Kirwin and likely same one again sighted 5 miles north and 6 miles east of Phillipsburg.
34. May 27	6:27 p.m.	Ford	(1)	(1)	(1)	0	0	0	0	Tornado sighted 5 miles south-southwest of Dodge City.
35. May 27	7:15 p.m.	Ford	(1)	(1)	(1)	0	0	5,000	0	2 funnels seen touching ground near Bucklin.
36. May 27	7:15 p.m.	Ford	(1)	(1)	(1)	0	0			
37. May 27	7:30 p.m.	Edwards	(1)	(1)	(1)	0	0	0	0	Funnel aloft reported near Kinsley.
38. May 27	7:30 p.m.	Pawnee	(1)	(1)	(1)	0	0	0	0	Funnel passed directly overhead at Larned.
39. May 27	8:20 p.m.	McPherson	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed from 5 miles west of McPherson to near Lindsborg.
40. May 27	8:25 p.m.	Kingman	E	(1)	(1)	0	0	10,000	0	Tornado reported west of Kingman.
41. May 27	8:30 p.m.	Harper	(1)	(1)	(1)	0	0	0	0	Tornado reported near Attica.
42. May 27	8:45 p.m.	Reno	NE	(1)	(1)	0	0	0	0	Definite roar from funnel aloft heard 5 miles northeast of Hutchinson.
43. May 27	9:15-10:30 p.m.	Harvey, Sedgwick, Sumner, Butler, and Cowley	(1)	(1)	(1)	0	0	10,000	0	Reports of at least 11 tornadoes or funnels aloft over these counties.
44. May 27	Ditto	Ditto	(1)	(1)	(1)					
45. May 27	Ditto	Ditto	(1)	(1)	(1)					
46. May 27	Ditto	Ditto	(1)	(1)	(1)					
47. May 27	Ditto	Ditto	(1)	(1)	(1)					
48. May 27	Ditto	Ditto	(1)	(1)	(1)					
49. May 27	Ditto	Ditto	(1)	(1)	(1)					
50. May 27	Ditto	Ditto	(1)	(1)	(1)					
51. May 27	Ditto	Ditto	(1)	(1)	(1)					
52. May 27	Ditto	Ditto	(1)	(1)	(1)					
53. May 27	Ditto	Ditto	(1)	(1)	(1)					
54. May 27	6:30-7:30 p.m.	Anderson, Miami, and Johnson	NNE	20	(1)	0	0	(2)	0	Tornado at Bush City at 6:30 p.m., south of Osawatomie at 7:30 p.m., continued aloft near Spring Hill and Gardner.
55. May 27	8:40 p.m.	Riley	E	(1)	(1)	0	0	0	0	Tornado visible 15 miles north of Manhattan.
56. June 1	7:30 p.m.	Kingman	(1)	(1)	(1)	0	0	0	0	3 funnels aloft reported 10 miles southwest of Kingman.
57. June 1	7:30 p.m.	Kingman	(1)	(1)	(1)	0	0	0	0	
58. June 1	7:30 p.m.	Kingman	(1)	(1)	(1)	0	0	0	0	

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Remarks
KANSAS (Cont'd)										
59. June 1	7:48 p.m.	Reno	NE	(1)	(1)	0	0	$0	$0	Funnel aloft near Partridge.
60. June 1	8:10 p.m.	Reno	E	(1)	(1)	0	0	0	0	Definite roar heard at eastern limits of Hutchinson.
61. June 1	8:36 p.m.	Pratt	(1)	(1)	(1)	0	0	0	0	Funnel aloft between Pratt and Greensbur
62. June 2	8:17 p.m.	Barton	(1)	(1)	(1)	0	0	0	0	Funnel reported aloft 5 miles west of Great Bend.
63. June 2	9:30 p.m.	Mitchell and Cloud	(1)	(1)	(1)	0	0	3,000	0	Several reports of funnel cloud near Concordia. Damage path extended from Asherville to near Concordia.
64. June 3	3:08 p.m.	Russell	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed south of Russell.
65. June 3	3:50 p.m.	Pawnee	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed west of Larned.
66. June 3	3:55 p.m.	Pawnee	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft 1 mile north and jus west of Pawnee Rock.
67. June 3	4:55 p.m.	Ford	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed 4 miles northeast of Bucklin.
68. June 3	4:55 p.m.	Kiowa	NE	(1)	(1)	0	0	0	0	Funnel cloud aloft observed 6 miles northeast of Greensburg; appeared abo 100 feet above ground.
69. June 3	5:02 p.m.	Pawnee	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed 35 miles west of Great Bend.
70. June 3	5:17 p.m.	Geary	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed 3 to 5 mil northwest of Junction City.
71. June 3	5:30 p.m.	Kingman	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft sighted at Kingman; disappeared in a few minutes.
72. June 3	6 p.m.	Stafford	NE	5	70	0	0	15,000	0	4 farmsteads damaged at Seward.
73. June 3	8:08 p.m.	Saline	SE	(1)	(1)	0	0	0	0	Funnel cloud aloft observed 2 miles west of Smoky Hill Air Base.
74. June 3	8:25 p.m.	Reno	E	(1)	(1)	0	0	0	0	Funnel cloud 15 miles southwest of Hutchinson Naval Air Base; touched ground.
75. June 3	11:30 p.m.	Sedgwick	NE	(1)	(1)	0	0	0	0	Funnel cloud aloft observed 15 to 20 miles north of Wichita Veterans Hospi
76. June 3	(1)	Republic	(1)	(1)	(1)	0	0	(1)	(1)	Tornado reported 4 miles south of Norw Details not obtained.
77. June 4	1:20 p.m.	Wallace	S	(1)	(1)	0	0	0	0	Tornado 3 miles west of Sharon Springs; dissipated with no damage.
78. June 4	2:30 p.m.	Logan	NE	7	(1)	0	0	(3)	0	2 funnels about 25 miles southwest of Oakley. 1 or both came to ground with little damage resulting.
79. June 4	2:30 p.m.	Logan	NE	7	(1)	0	0			
*80. June 4	3:20-6 p.m	Osborne, Smith, Jewell, and Republic	N-NE	70	100-900	0	0	200,000	0	Tornado first observed north of Downs, moved due north to Dispatch in southeastern Smith County, lifted and followed a more easterly course, touchin ground again 2 miles west of Mankato about 4:38 p.m. Damage path 4 miles long through northern part of Mankato Next serious damage was east of Republic at 6 p.m. Tornado then moved into Nebraska causing damage at Chest and Hubbell.
81. June 4	3:30 p.m.	Smith	(1)	(1)	(1)	0	0	(3)	0	Farm buildings near Cora demolished.
82. June 4	4-6 p.m.	Ford, Edwards, and Pawnee	NE	50	100	0	0	250,000	0	Some indication storm began 17 miles south of Dodge City, Ford County; observed 20 miles east of Dodge City at 4:10 p.m. Storm followed Arkansas River bottom, passing east of Kinsley Edwards County, and west of Garfield, Pawnee County, with final damage 3 miles east of Larned, Pawnee County, at 6 p.m. Major damage occurred in Garfield area. Damage path uneven an broken. Cloud resembled huge, inverte bowl which let down fingerlike tentac 6 funnels observed.
83. June 4	4-6 p.m.	Ditto								
84. June 4	4-6 p.m.	Ditto								
85. June 4	4-6 p.m.	Ditto								
86. June 4	4-6 p.m.	Ditto								
87. June 4	4-6 p.m.	Ditto								

See references notes at end of table.

Table 11–Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
KANSAS (Cont'd)										
88. June 4	4:32 p.m.	Hamilton	NE	(1)	(1)	0	0	$0	$0	Funnel cloud aloft observed 8 miles northeast of Syracuse.
89. June 4	5:15 p.m.	Cloud	NE	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Jamestown.
90. June 4	5:30 p.m.	Ness	NE	(1)	(1)	0	0	(3)	0	Funnel cloud dipped to ground 4 miles north of Laird.
91. June 4	Afternoon	Gove	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed near Quinter.
92. June 4	6:30 p.m.	Stafford	N	7	400	0	0	12,000	0	Followed erratic course from 6 miles north of Stafford to 5 miles northeast of Hudson. 30 head of cattle killed. Tornado stripped 300 feet of paving from black-top road and pulled 2-ton anchor posts of 2 oil derricks out of ground. Only 1 tornado caused damage, but 10 other funnels observed from Macksville, St. John, Stafford, and Hudson areas.
93. June 4	6:30 p.m.	Stafford								
94. June 4	6:30 p.m.	Stafford								
95. June 4	6:30 p.m.	Stafford								
96. June 4	6:30 p.m.	Stafford								
97. June 4	6:30 p.m.	Stafford								
98. June 4	6:30 p.m.	Stafford								
99. June 4	6:30 p.m.	Stafford								
100. June 4	6:30 p.m.	Stafford								
101. June 4	6:30 p.m.	Stafford								
102. June 4	6:30 p.m.	Stafford								
103. June 4	7-8 p.m.	Rice	(1)	(1)	(1)	0	0	(3)	0	Several funnels observed west of Lyons, but caused no appreciable damage.
104. June 4	7-8 p.m.	Rice	(1)	(1)	(1)	0	0	(3)	0	
105. June 4	7:35 p.m.	Ottawa	E	(1)	(1)	0	0	(3)	0	Tornado about 5 miles southwest of Minneapolis. Damage to haystacks and trees.
106. June 4	7:38 p.m.	Graham	SSE	(1)	(1)	0	0	0	0	2 funnels reported 10 to 15 miles southwest of Hill City.
107. June 4	7:38 p.m.	Graham	SSE	(1)	(1)	0	0	0	0	
108. June 4	7:40 p.m.	Rice	ENE	7	200	0	0	10,000	0	Tornado demolished farmstead 2 miles south of Raymond, moved to north of Alden, and went aloft south of Lyons.
109. June 4	7:45 p.m.	Clay	(1)	(1)	(1)	0	0	0	0	Funnel seen southwest of Clifton.
110. June 4	Dusk	Dickinson	(1)	(1)	(1)	0	0	0	0	Funnels aloft observed both east and west of Abilene.
111. June 4	Dusk	Dickinson	(1)	(1)	(1)	0	0	0	0	
112. June 4	10:43 p.m.	Seward	(1)	(1)	(1)	0	0	0	0	2 funnels observed 10 miles northwest of Liberal and 5 miles east of Liberal.
113. June 4	10:52 p.m.	Seward	(1)	(1)	(1)	0	0	0	0	
114. June 4	(1)	Reno	E	(1)	(1)	0	0	0	0	Funnel cloud sighted 20 miles south of Sterling.
115. June 4	(1)	Trego	(1)	(1)	(1)	0	0	(3)	0	3 farmsteads damaged 15 miles south of Wakeeney.
116. June 5	1:20 a.m.	Bourbon	(1)	(1)	(1)	0	0	0	0	Tornado touched ground northeast of Fort Scott.
117. June 12	Evening	Wallace	(1)	(1)	(1)	0	0	0	0	Tornado funnel observed in southwestern part of Wallace County.
118. June 12	Evening	Wichita	(1)	(1)	(1)	0	0	0	0	Tornado funnel observed over pasture- and wheatland southwest of Leoti.
119. June 17	1:30 p.m.	Meade	(1)	(1)	(1)	0	0	(3)	0	4 distinct funnels observed near Meade.
120. June 17	1:30 p.m.	Meade	(1)	(1)	(1)					
121. June 17	1:30 p.m.	Meade	(1)	(1)	(1)					
122. June 17	1:30 p.m.	Meade	(1)	(1)	(1)					
123. June 17	2:35 p.m.	Gray	(1)	(1)	(1)	0	0	0	0	Funnel aloft reported 23 miles south-southeast of Garden City.
124. June 17	Early afternoon	Meade	(1)	(1)	(1)	0	0	15,000	0	3 tornadoes crossed Fowler area, damaging farm buildings.
125. June 17	Ditto	Meade	(1)	(1)	(1)					
126. June 17	Ditto	Meade	(1)	(1)	(1)					
127. June 17	Early afternoon	Clark	E	(1)	(1)	0	0	10,000	0	Funnel touched ground 7 miles south of Minneola, demolishing 1 farmstead and damaging others.
128. June 17	6:30 p.m.	Harper	(1)	(1)	(1)	0	0	0	0	Funnel aloft reported 6 miles northwest of Anthony.
129. June 18	7:28 p.m.	Logan	E	(1)	(1)	0	0	0	0	2 funnels reported aloft 10 miles south of Oakley.
130. June 18	7:28 p.m.	Logan	E	(1)	(1)	0	0	0	0	
131. June 21	1:35 p.m.	Saline	ENE	(1)	(1)	0	0	0	0	Pilot reported funnel touching gound in open country 10 miles south of Gypsum.
132. June 30	5:10 p.m.	Russell	(1)	(1)	(1)	0	0	0	0	Funnel cloud sighted north of Russell. Appeared to be breaking up at 5:28 p.m., 14 miles north of Russell.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
KANSAS (Cont'd)										
133. June 30	6:40 p.m.	Cloud	ENE	1	(1)	0	0	(3)	$0	Tornado touched ground 1-1/2 miles south of Concordia.
134. June 30	6:45 p.m.	Hodgeman	(1)	(1)	(1)	0	0	$0	0	Tornado touched ground 12 miles south-southwest of Jetmore. Little movement.
135. June 30	7:15 p.m.	Washington	(1)	(1)	(1)	0	0	(3)	0	Observed 1-1/2 miles west of Clifton. Several small farm buildings damaged.
136. June 30	(1)	Cloud	(1)	(1)	(1)	0	0	(3)	0	2 funnels seen southwest of Clyde.
137. June 30	(1)	Cloud	(1)	(1)	(1)	0	0	(3)	0	
138. July 13	6:30 p.m.	Gray	SW	1/4	(5)	0	0	4,000	0	Tornado observed 1 mile north of Cimarron in dust cloud; roar heard. Damage to residence.
139. July 18	12:37 p.m.	Pratt	(1)	(1)	(1)	0	0	0	0	2 small funnels dipped momentarily to earth and then disappeared. One 2 miles east of Iuka and the other southeast of Preston.
140. July 18	12:37 p.m.	Pratt	(1)	(1)	(1)	0	0	0	0	
141. July 23	4:30 p.m.	Labette	(1)	(1)	(1)	0	0	(3)	0	Loud-pitched whine heard. Implement shed 10 miles northeast of Parsons destroyed.
142. Sept. 10	3:55 p.m.	Butler	(1)	(1)	(1)	0	0	(3)	0	Funnel touched ground briefly 3 miles south of Augusta.
143. Sept. 21	3:50 p.m.	Coffey	NE	1/4	35	0	0	3,500	0	2 funnel clouds observed. 1 funnel caused damage 6 miles south and 1 mile west of Waverly. The other southeast of Waverly remained aloft.
144. Sept. 21	3:50 p.m.	Coffey	NE							
145. Sept. 22	1:55 p.m.	Shawnee	(1)	(1)	(1)	0	0	0	0	Funnel appeared momentarily suspended, then disappeared, 15 miles southeast of Topeka.
146. Sept. 22	5:45 p.m.	Barton	NE	(1)	(1)	1	0	0	0	Tornado dipped to earth momentarily in open field west of Great Bend. 1 man died from heart attack when funnel sighted.
KENTUCKY										
1. Mar. 4	6:45-7 p.m.	Madison	E	5	250	0	2	98,000	2,000	Tornado moved from village of Cottonwood to south of Richmond, accompanied by heavy rains. Houses, barns, and outbuildings demolished. Cars damaged and utility services interrupted. Noise of tornado described as "like a freight train."
2. Mar. 15	9:30 p.m.	Muhlenberg	SSE	(1)	(1)	0	9	150,000	0	Tornado of bounding type hit parts of communities of Holt and Cleaton. At least 15 houses demolished and about 30 others damaged. Garage blown over and cars overturned. Trees and fences uprooted, with debris hanging in tree branches and on powerlines.
3. Apr. 24	3:45-4 a.m.	Madison	NE	3	800	0	2	50,000	0	Damage largely confined to area around Eastern State College in Richmond. Hundreds of trees uprooted, TV antennas and chimneys blown down, a few homes damaged, and many windows broken.
LOUISIANA										
1. Apr. 4	3:05 p.m.	Beauregard	NE	1	500	0	0	15,000	0	Tornado at Sugartown uprooted trees, broke telephone poles, and lifted objects into air.
2. May 23	1 p.m.	Bienville	NE	3	400	0	0	15,000	(3)	Passed through timberland and damaged a number of farmhouses near Lucky.
3. June 27	3 p.m.	Union	NE	(4)	(5)	0	0	0	0	Tornado touched ground briefly without damage 7 miles northwest of Spearsville.
MAINE										
1. July 7	3 p.m.	Penobscot	(1)	[6]✓ 200	8	0	0	0	0	Dust devil at Bangor witnessed by 9 persons. Wind had definite twisting action. As it passed over group of small trees, it pulled leaves and limbs upward.
MARYLAND (None reported)										

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
MASSACHUSETTS										
1. July 5	Evening	Franklin	S then E	(1)	(1)	0	10	$2,500	(2)	Struck Sunderland, accompanied by moth-ball sized hail. Completely demolished large barn and damaged smaller barn and shed. Storm then turned eastward over wooded area leaving a trail of twisted saplings.
2. July 11	6 p.m.	Berkshire	(1)	(1)	(1)	0	0	(2)	$0	Struck Sheffield. Garage destroyed and attached barn unroofed. Roof of nearby tool shed deposited in treetop.
3. Oct. 24	6 p.m.	Worcester	NW	5	(1)	0	0	1,000	0	Storm traveled from Tatnuck area of Worcester to Paxton, 5 miles in about 10 minutes. Damage to plate-glass windows, signs, chimneys, and antennas. 3 large trees uprooted. Cupola ripped from a roof and scattered over front lawn.
4. Oct. 24	7:05 p.m.	Middlesex	S	(4)	(5)	0	0	2,300	0	Tornado very local in character struck single house in Lowell knocking down chimney, ripping clapboards, and tearing huge holes in roof.
MICHIGAN										
1. May 28	4 a.m.	Clinton	(1)	(1)	(1)	0	0	5,000	0	3 miles west of Elsie, barn destroyed. No actual witnesses of storm.
2. May 28	9 a.m.	Kalamazoo and Eaton	NE	65	100	0	1	150,000	10,000	Apparently developed near Schoolcraft, lifted then struck again near Climax, lifted again, then struck again near Bellevue, and continued to just east of Grand Ledge.
3. May 28	6 p.m.	Kalamazoo	(1)	(4)	(1)	0	0	3,000	0	Struck at Long Lake, southeast of Kalamazoo. 2 buildings and 2 cars damaged, and trees and utility poles downed.
4. June 5	5 p.m.	Cheyboygan	NE	2	(1)	0	0	200	0	In Aloha Township, tornado uprooted large trees and carried 14-foot boat 100 feet.
5. June 6	3 p.m.	Charlevoix	NE	1	(5)	0	0	1,000	2,000	Struck just south of Petoskey. Trees and tomato plants uprooted and some small buildings damaged.
6. June 7	5:45 p.m.	Gladwin	NE	4	100	0	0	10,500	1,000	1-1/2 miles south of Beaverton several buildings destroyed and 1 farm home twisted on foundation.
7. June 19	3:30 p.m.	Charlevoix	NE	3	50	0	0	2,500	500	At Boyne Falls, roof of service station twisted loose, silo moved off foundation, and small buildings destroyed.
8. July 8	4:30 p.m.	St. Joseph	N	(4)	25	0	0	2,200	0	Near Centreville, tornado smashed chicken-house, killing some chickens.
9. July 15	9 a.m.	Oakland	(1)	(4)	(5)	0	0	1,000	0	Near Drayton Plains, tornado hit wooded area tearing down many large trees.
10. Aug. 6	4:35 p.m.	Barry	NE	1/2	100	0	1	8,000	0	Struck county fairgrounds just west of Hastings, destroying oats, uprooting trees, and damaging several structures. Man injured when hurled over 30 feet.
11. Aug. 6	6 p.m.	Jackson	ENE	7	40	0	0	2,000	1,000	Tornado first struck near Clarks Lake, then lifted and soon hit near Norvell.
12. Aug. 20	12:10 p.m.	Missaukee and Crawford	NE	15	80	0	0	3,000	0	First struck 10 miles northeast of Lake City, then lifted and traveled aloft with no further damage.
MINNESOTA										
1. Apr. 19	8:30 p.m.	Lincoln	N	9	80	0	0	100,000	0	Tornado skipped, hitting villages of Danebord and Tyler then northward into Lake Stay Township. No funnel cloud observed. Damage extensive to homes, barns, automobiles, and machinery.
2. Apr. 27	7 p.m.	Nobles	(1)	(1)	(1)	0	0	(2)	0	Automobile lifted off highway near Worthington and set in ditch without damage. Farmer observed funnel cloud

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
MINNESOTA (Cont'd)										just before his brooder house was turned upside down; adjacent buildings left untouched.
3. June 5	1:45 p.m.	Washington	N	(1)	(1)	0	0	$0	$0	Funnel-shaped cloud observed and reported by several persons near Lake Elmo. Apparently funnel did not descend to earth as no damage reported.
4. June 18	1 p.m.	Ottertail	(1)	(1)	(1)	0	0	(2)	0	Waterspout observed on Star and Dead Lakes. Boat at anchor lifted into air and deposited in field. Miscellaneous other damage. All buildings on nearby farmstead, except home destroyed.
5. June 30	3:50 p.m.	Polk	SE	(1)	(1)	0	8	10,000	(2)	Funnel-shaped cloud observed near East Grand Forks. Farm home demolished, injuring 8 persons. Barn and machine shed untouched.
6. June 30	4:15 p.m.	Clay and Wilkin	NE	(1)	(1)	0	0	0	(3)	Funnel cloud observed, near Wolverton, Wilkin County, moving northeastward to Baker, Clay County. Cloud dipped several times to ground; light crop damage only.
7. July 2	6:30-7:30 p.m.	Wilkin	NE	20	440	0	2	107,500	(2)	At 6:30 p.m., tornado 3-1/2 miles southeast of Wolverton. At 7:30 p.m., tornado struck 2 miles east of Breckenridge. 2 other funnel clouds observed, but did not descend to earth.
8. July 2	Ditto	Wilkin	NE							
9. July 2	Ditto	Wilkin	NE							
10. July 2	Ditto	Wilkin	NE							
11. July 3	5 p.m.	Aitkin	(1)	(1)	(1)	0	0	(3)	0	Waterspout observed on Lake Mille Lacs. Light property damage to summer cottages.
12. July 7	3-4:30 p.m.	Lincoln and Lyon	NE	20	(1)	1	13	1,000,000	500,000	2 separate tornadoes. First tornado struck 1 mile south of Arco, Lincoln County. Second tornado 1 mile south of Hendricks, Lincoln County. Path of tornadoes not continuous. Last and greatest destruction reported 11 miles west of Marshall, Lyon County. Here nearly all buildings on 4 farms destroyed, 1 person killed, and 13 injured.
13. July 7	3-4:30p.m.	Ditto	NE							
14. Sept. 16	2:30 p.m.	Stearns, Benton, Mille Lacs, Isanti, and Kanabec	NE and E	12	(1)	1	0	175,000	0	Several small funnels reported south of Bock, Mille Lacs County. Throughout listed counties, approximately 35 barns and other farm buildings destroyed. Miscellaneous other damage on additional 50 farms.
15. Sept. 16	2:30 p.m.	Ditto								
16. Sept. 17	7:30 p.m.	Koochiching	NE	1/4	23	0	0	500	0	Near Silverdale, telephone pole picked up, carried across road and driven endwise through window of house. A 70-foot swath cut through grove of trees. Roof of house was lifted and carried away. Funnel-shaped cloud reported observed during flashes of lightning.
MISSISSIPPI										
1. Mar. 21	11:44 a.m.	Lee	NE	3/10	33	0	0	75,000	(3)	Struck southwestern and northeastern Tupelo.
2. Apr. 12	6-8 p.m.	Simpson to Jasper	ENE	60	(5)	0	0	T✓ 36,000	C	Moved from south of White Oak, Simpson County, to north of Paulding, Jasper County.
3. Apr. 12	6:30-10 p.m.	Lincoln, Lawrence, Jefferson Davis, Covington, Jones, and Wayne	ENE	120	(5)	0	0	T✓ 183,000	C	Destroyed 44 homes and buildings and damaged 185. Heaviest damage in Jones County.
4. Apr. 21	5:55 p.m.	Hinds	SSE	(4)	(5)	0	0	500	0	Tornado 3 miles south of Jackson mostly aloft; toppled trees on hillside.
5. June 22	2 p.m.	Quitman and Panola	NE	30	(5)	0	0	35,000	15,000	4 homes and 1 other building destroyed and 14 others damaged.
6. Oct. 28	11 a.m.	Coahoma	NE	2	100	0	2	95,000	5,000	Several buildings demolished and many seriously damaged at Clarksdale.
MISSOURI										
1. Mar. 14	5:10 p.m.	Clinton and Caldwell	E	4	250	0	1	50,000	0	Moved from 5 miles south of Cameron to Mirabile and Kingston. 1 home destroyed,

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons Killed	Number of persons Injured	Estimated damage Property (exclusive of crops)	Estimated damage Crops	Remarks
MISSOURI (Cont'd)										5 damaged, and 25 other buildings destroyed.
Mar. 14	5:40 p.m.	Clay and Ray	NE	4	250	0	0	$40,000	$0	Moved from southeast of Excelsior Springs into Ray County. 5 farm buildings damaged and several barns and sheds demolished.
Mar. 14	6 p.m.	Clay	(1)	1/4	100	0	0	(2)	0	Lumberyard roof scattered and cars and truck damaged at Excelsior Springs.
Mar. 20	4:30 p.m.	Dunklin	NE	3/4	100	0	0	7,000	0	1 home destroyed, 4 damaged and 10 other buildings damaged 3 miles south of Hornersville. Crossed from Arkansas.
Mar. 20	5:20 p.m.	Mississippi	NE	4	250	0	17	100,000	0	In Windyville community, 5 homes destroyed, 8 damaged, and 10 other buildings destroyed and 12 others damaged.
Apr. 22	2:45 p.m.	Bollinger	SE	1/4	50	0	0	20,000	2,000	At Lutesville, 1 home and 8 other buildings destroyed and 36 buildings damaged.
Apr. 22	4 p.m.	Cape Girardeau	S	4	50	0	1	60,000	500	3 homes destroyed and 34 other buildings damaged. 1-1/2 miles northwest of Delta.
Apr. 22	4-5 p.m.	New Madrid	SE	(1)	(1)	0	0	100,000	0	Struck in St. John, Barnes Ridge, and Laforge areas.
Apr. 22	5:10 p.m.	Scott	NE	(1)	(1)	0	0	50,000	0	48 homes damaged in Sikeston.
Apr. 22	9 p.m.	Mississippi	(1)	(1)	(1)	0	0	500	0	5 buildings damaged near East Prairie.
Apr. 22	(1)	Bollinger and Cape Girardeau	(1)	(1)	(1)	0	0	0	0	3 funnels seen aloft near Gravel Hill.
Apr. 22	(1)	Ditto	(1)	(1)	(1)	0	0	0	0	
Apr. 22	(1)	Ditto	(1)	(1)	(1)	0	0	0	0	
Apr. 23	1:30 p.m.	Worth	NE	4	100	0	1	15,300	200	Struck in East Union and Isadora.
Apr. 23	1:35 p.m.	Atchison	N	2 1/2	100	0	0	15,000	0	3 miles east of Tarkio, buildings exploded and scattered.
Apr. 23	4:15 p.m.	Montgomery	NW	10	100	0	0	25,000	300	Most damage to farm buildings near Wellsville and Montgomery City.
Apr. 23	5:30 p.m.	Lincoln	(1)	(1)	(1)	0	0	(2)	0	Occurred between Olney and Silex.
Apr. 23	8 p.m.	Dunklin	NE	(4)	(5)	0	0	5,000	0	Shed and equipment destroyed 4 miles west of Campbell.
Apr. 23	Evening	Audrain	(1)	(1)	(1)	0	0	500	0	Northeast of Wellsville, some damage to buildings.
May 7	(1)	Montgomery	(1)	(1)	(1)	0	0	500	0	1 home, garage, and outbuildings damaged west of Montgomery City and north of Wellsville.
May 26	3 a.m.	Mercer	N	1	100	0	0	(2)	0	2 miles northeast of Modena, 1 house and a few outbuildings destroyed.
May 26	7 a.m.	Jasper	(1)	(1)	(1)	0	0	(8)	0	Trees uprooted in Joplin.
May 26	9:45 a.m.	Moniteau	(1)	(1)	(1)	0	0	1,000	(3)	Occurred 3 miles northeast of Tipton.
May 26	6 p.m.	Carroll	(1)	(1)	(1)	0	1	(2)	0	1 farm home damaged 2 miles north of Norborne.
May 26	7 p.m.	Howell	(1)	(1)	(1)	0	0	500	(3)	Orchard damaged 15 miles southeast of West Plains.
May 26	8 p.m.	Schuyler	NE	12	25	0	2	20,000	(3)	2 miles east of Livonia, trees uprooted and buildings damaged or destroyed.
May 26	Night	Linn	NE	(1)	(1)	0	0	(2)	(3)	1 farm 3 miles northwest of Laclede damaged.
May 27	9 p.m.	Cass	(1)	(1)	(1)	0	0	(2)	0	Barn and outbuildings destroyed 7 miles northwest of Harrisonville.
May 27	(1)	Lincoln	(1)	(1)	(1)	0	0	(3)	(3)	Damage confined to wooded area near Apex.
July 5	Afternoon	Ozark	(1)	(1)	(5)	0	0	(3)	0	At Gainesville, icehouse roof picked up and deposited across road.
July 23	7:30 p.m.	Greene	(1)	(1)	(1)	0	0	10,000	0	At Springfield, porch blown off residence and several trees blown over.

See reference notes at end of table.

TORNADO DATA

Table 11—Continued

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Remarks
MISSOURI (Cont'd)										
32. Sept. 21	4:30 p.m.	Morgan and Moniteau	NE	5	500	0	0	$1,500	(3)	Near Fortuna, 2 barns and 1 house damaged.
33. Sept. 22	4:10 p.m.	Cass	SE	3	1,500	0	0	12,000	$6,000	1 barn and other buildings leveled 1 mile south of Gunn City. Hail 1-1/2 inches in diameter.
34. Oct. 5	1:30 p.m.	Polk	NE	2	75	0	0	2,100	0	At Humansville, large trees uprooted and powerlines broken.
35. Oct. 6	4 p.m.	Cass	(1)	(4)	(5)	0	0	12,000	0	Large barn, granary, chickenhouse, and concrete silo chute destroyed 2 miles east of Harrisonville.
36. Nov. 16	12:15 p.m.	Howell	NE	4	1,000	0	2	10,000	0	South of West Plains, 3 homes destroyed, 23 damaged, and 10 other buildings damaged. Injured man carried 150 yards by tornado.
MONTANA										
1. June 29	5:10 p.m.	Richland	E	(1)	(1)	0	0	0	0	Near Sidney, funnel cloud observed aloft.
2. July 6	2:30 p.m.	Yellowstone	NNE	2	50	0	0	5,000	0	Struck Pryor Creek area, south of Huntley.
3. July 6	4:30 p.m.	Yellowstone	NNE	2	75	0	0	10,000	0	Near Myers, tornado picked up granary, scattering the building, and damaged house roof and garage.
4. July 6	8:15 p.m.	Prairie	SE	(1)	1,000	0	0	12,000	0	Near Terry, tornado during thunderstorm destroyed 1 house.
NEBRASKA										
1. Apr. 27	9:30 p.m.	Lancaster	NE	(4)	(5)	0	0	1,500	0	2-1/2 miles west-northwest of Rokeby, funnel cloud observed. 2 small farm buildings destroyed and barn damaged. 4 x 4-inch timber driven through wall of house.
2. May 2	7:30 p.m.	Dawson	(1)	(4)	50	0	0	(2)	0	3 miles northeast of Lexington, 4 buildings between house and barn destroyed; house and barn undamaged.
3. May 2	Night	Custer	(1)	(4)	(1)	0	0	(2)	0	Near Broken Bow, evidence of small rotar storm in straight-line storm. Several farm buildings damaged.
4. May 26	Afternoon	Gosper	(1)	(1)	(1)	0	0	0	0	2 funnel clouds observed aloft between
5. May 26	Afternoon	Gosper	(1)	(1)	(1)	0	0	0	0	Elmwood and Arapahoe.
6. May 26	5 p.m.	Dakota	NW	5	20	0	0	(2)	0	Damage showed evidence of twisting storm Damage to buildings on 3 farms 1 mile west of Homer.
7. May 26	5:30 p.m.	Wayne	NE	5	100-200	0	1	7,000	0	Buildings on 5 farms destroyed northeast of Wayne.
8. June 2	5:30 p.m.	Kearney	NE	[illegible]	(5)	0	0	9,000	0	Occurred southeast of Minden.
9. June 2	Evening	Pierce	(1)	(4)	(5)	0	0	1,500	0	Possible tornado 4 miles northeast of Plainview.
*10. June 4	6:50-7:30 p.m.	Thayer	NE	(1)	440	0	1	51,000	(3)	1 funnel observed; possibly several tornadoes. Occurred at Hubbell; moved into State from Kansas.
11. June 4	Ditto	Thayer	NE	(1)	(1)					
12. June 4	9:25 p.m.	Washington	NE	1/4	(5)	0	0	(3)	0	Funnel observed. A few trees topped, bu little damage near ground at Fort Calhoun.
13. June 17	1 p.m.	Wayne and Dixon	NE	10	40	0	0	4,000	0	Funnel observed by several persons. Path mostly through open fields.
14. June 17	2:30-4 p.m.	Box Butte	(1)	(4)	(5)	0	0	0	0	Funnel observed over open country near Alliance.
15. June 26	11 p.m.	Scotts Bluff	(1)	(4)	(5)	0	0	1,500	0	At Morrill, damage very freakish. Window blown from house and laid unbroken on lawn. Other property damaged.
16. June 27	4:30 p.m.	Scotts Bluff and Morrill	E	20	(5)	2	20	450,000	(3)	Tornado moved from south of Mitchell to near Bayard.
17. June 27	Afternoon	Scotts Bluff	S	(1)	(5)	0	0	(2)	(3)	West of Morrill, several buildings demolished.

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
NEBRASKA (Cont'd)										
18. June 30	6:15 p.m.	Jefferson	E	(1)	(1)	0	0	$0	$0	Funnel observed aloft at Fairbury.
19. July 4	9 p.m.	Furnas	NE	(4)	(5)	0	0	$1,000	0	Tornado occurred 4-1/2 miles northeast of Edison. 1 x 8-inch boards driven into ground in straight row.
20. July 8	1-3 a.m.	Custer, Sherman, Howard, and Nance	E	35	(5)	1	13	80,000	0	Buildings burst outward and trees uprooted. Most property damage around Loup City.
21. July 9	10:07 p.m.	Polk	(1)	(1)	(5)	0	0	20,000	0	Boards blown 80 rods and driven into ground. Barn demolished southwest of Polk.
22. July 9	10:30 p.m.	Box Butte	(1)	(4)	(5)	0	0	2,000	0	11 miles east-northeast of Hemingford, house undamaged but nearby farm buildings destroyed or badly damaged.
23. July 9	Evening	Hall	E	5	(5)	0	0	1,500	0	Tornado 5 miles southeast of Cairo. Funnel cloud observed.
24. July 12	12:20 a.m.	Dawson	NNE	✓6 70	25	0	0	4,600	0	At Eddyville, 3 buildings damaged. 2 x 6-foot board driven 4 feet into ground.
25. July 12	1 p.m.	Brown	NE	(4)	(5)	0	0	200	0	4-1/2 miles south of Ainsworth, heavy grader blade lifted and driven through garage.
26. July 12	5 p.m.	Howard	(1)	(1)	(1)	0	0	500	0	2-1/2 miles northeast of Boelus, funnel reached ground at one point damaging large tile hoghouse.
27. July 12	6:15-6:30 p.m.	Buffalo	NE	5-6	(5)	0	0	1,500	0	5-1/2 miles east of Kearney, some buildings burst outward.
28. July 12	8 p.m.	Greeley	(1)	(1)	(1)	0	0	0	0	Funnel cloud observed aloft near Scotia.
29. July 12	8 p.m.	Scotts Bluff	(1)	(4)	(5)	0	0	(2)	0	Funnel seen by many persons at Terrytown. Damage mostly to roofs and treetops.
30. Aug. 3	4:30 p.m.	Box Butte	NE	(4)	(5)	0	0	500	0	12 miles west of Hemingford, large chickenhouse roof sheared off.
31. Aug. 9	4-4:30 p.m.	Greeley	SW	2	100	0	0	1,000	0	5-1/2 miles southeast of Scotia, 12 x 60-foot cattle shed damaged. Cement blocks moved 200 feet.
32. Aug. 9	5:30 p.m.	Dawson	SW	(4)	33	0	0	3,000	0	Suspected tornado at Lexington destroyed section of grandstand roof.
33. Sept. 17	Midnight	Sherman	NNE	2	50	0	0	2,000	0	4 miles south of Loup City, several farm buildings damaged or destroyed.
34. Sept. 20	4-4:30 p.m.	Blaine	NE	12	(5)	0	0	4,000	0	South of Brewster, cattle shed and about 2,000 bales of hay picked up and scattered.
35. Sept. 20	Late afternoon	Custer	NE	8-10	(5)	0	0	3,000	0	West and north of Sargent, farm buildings damaged and 1 small brick and lumber henhouse destroyed.
36. Sept. 20	Evening	Nuckolls	NE	5-6	(5)	0	0	4,000	(3)	In northwestern portion of County, several farm buildings wrecked and 500 turkeys killed. Funnel cloud observed.
NEW HAMPSHIRE										
1. May 21	1:30 p.m.	Merrimack	(1)	(4)	25	0	2	100	0	In Concord area, dust devil destroyed shed, injuring 2 girls. Sky in area cloudless all day.
2. Oct. 24	4:55-5:20 p.m.	Sullivan	E	12	(1)	0	0	3,500	0	Storm struck Charlestown, Claremont, and Newport. Large toolshed lifted and overturned; large tree snapped near base, fell onto house and car and felled powerline.
NEVADA										
(None reported)										
NEW JERSEY										
1. Oct. 16	3:10 p.m.	Monmouth	NW	5	100	0	0	(3)	0	Tornado first observed near Long Branch at 3:10 p.m., and disappeared at 3:40 p.m.

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Remarks
NEW MEXICO										
1. May 18	12:35 p.m.	Curry	NE	1/4	20	0	0	$1,500	$0	Mostly over open country in Melrose area.
NEW YORK										
1. Aug. 30	4:20 p.m.	Schuyler	ENE	1	200	0	0	35,000	0	At Townsend, a funnel-shaped cloud accompanied by winds of undetermined velocity caused buildings to "explode" outward and twisted tree trunks off.
NORTH CAROLINA										
1. Mar. 16	3:30 p.m.	Wayne	ENE	5	500	1	1	25,000	0	Funnel seem 4 miles northeast of Fremont. Another tornado reported in Pitt County same afternoon, but not verified.
2. Apr. 14	(1)	Columbus and Robeson	(1)	(1)	(1)	0	0	8,000	0	2 separate cases of isolated tobacco barns destroyed, in adjoining counties, 1 at Lumberton and 1 at Cerro Gordo, under conditions strongly suggesting tornado. Some powerline damage.
3. May 8	6 p.m.	Perquimans	NE	(4)	(5)	0	0	10,000	5,000	In Chapanoke and Nicanor areas, 2 large grain bins moved 1/4 mile, roofs ripped from buildings, trees twisted off, and crops destroyed.
4. May 30	2:30 p.m.	Onslow	(1)	6 ✓ 100	25	0	0	2,000	0	Small funnel cloud seen near Jacksonville, touched briefly in residential area.
5. June 11	3:30 p.m.	Pitt and Martin	ENE	15	200	0	0	400,000	100,000	Skipped along 15-mile path; combined length of damaged areas about 3 miles. Buildings destroyed and damaged in and near Bethel. Storm moved from Penny Hill, through Bethel, and then Gold Point.
6. June 25	3:45 p.m.	Perquimans	(1)	(1)	(1)	0	0	10,000	0	2-story frame house near Hertford overturned and demolished, 2 women inside slightly hurt. Conditions suggest tornado.
7. Aug. 10	6:30 p.m.	Pender	W	1	50	0	1	10,000	0	In connection with advance fringes of hurricane "Connie". 5 barns destroyed, 1 woman hurt at Penderlea.
NORTH DAKOTA										
1. June 3	Afternoon	Bottineau	NW-W	3	20-50	0	0	0	(2)	5 miles northwest of Willow City. Path described as S-shaped, first moving northwestward, then westward, and again northwestward. Missed farm buildings, but crops flattened.
2. June 29	8:15 p.m.	Williams	NE	(1)	(1)	0	0	0	0	Funnel touched ground briefly near Buford.
3. June 30	3:30 p.m.	Grand Forks	NE	4	75	0	0	5,000	3,000	Occurred at Manvel.
4. June 30	4 p.m.	Cass	NE	(1)	(1)	0	0	0	2,000	Damage confined to field crops in small areas south of Fargo.
5. July 1	5:10 p.m.	Emmons	NE	3	40	0	0	10,000	1,000	Northwest of Temvik, 8 buildings demolished and about 100 chickens killed.
6. July 2	6 p.m.	Richland	E	12	150	2	19	150,000	30,000	Southwest of Walcott, houses, barns, and farm machinery destroyed. Man killed when drawn through window of house as tornado destroyed building, killing another man. 3 other funnel clouds aloft observed in area.
7. July 2	6 p.m.	Richland	E	(1)						
8. July 2	6 p.m.	Richland	E	(1)						
9. July 2	6 p.m.	Richland	E	(1)						
10. July 5	5:15 p.m.	Mountrail	NE	25	100	0	0	20,000	1,000	Farmstead razed 5 miles northeast of Lostwood. Some hogs and poultry killed.
11. July 6	8 p.m.	Morton	NE	7	15	0	0	2,000	0	Buildings damaged and chickens killed at Judson.
12. Aug. 3	5 p.m.	McLean	NE	(1)	(1)	0	0	5,000	0	
13. Aug. 3	8:30 p.m.	Barnes	SE	1 1/2	(1)	0	0	75,000	75,000	Farm buildings destroyed, trees uprooted, and much swathed grain a total loss.
14. Aug. 3	(1)	Oliver	E	(1)	(1)	0	0	4,000	0	14 miles west of Washburn, farm buildings demolished and trees snapped.
15. Aug. 10	(1)	La Moure	E	(1)	(1)	0	0	5,000	2,000	

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
OHIO										
1. Mar. 1	1:50 a.m.	Miami	NE	1, 2	100	0	0	$200,000	$0	Tornado path from Highland Park to Miami River. Damage to residences and commercial buildings. Greatest damage to manufacturing plant in Troy.
2. Mar. 1	2:52 a.m.	Mahoning	E	1/8	40	1	6	150,000	0	In eastern suburb of Youngstown, residences and trees damaged.
3. Mar. 11	5:25 a.m.	Columbiana	ENE	3	200	0	0	100,000	0	Storm extended from 1-1/2 miles southeast of Salem to north of Leetonia. Numerous farm buildings damaged and livestock killed.
4. Mar. 11	5:31 a.m.	Tuscarawas	NE	4	200	0	2	200,000	0	Principle damage in business section of Newcomerstown.
5. Mar. 22	9 a.m.	Mahoning	NE	3/4	400	0	3	20,000	0	Principle damage just east of business section of Poland.
6. Apr. 13	4 p.m.	Muskingum	E	(1)	(1)	0	0	1,000	0	Suspected tornado at Zanesville demolished small farm building and damaged nearby barn.
*7. Nov. 15	8:45 p.m.	Darke	ENE	7	200-400	0	1	500,000	0	Path over open country crossing Indiana state line and ending north of Greenville.
OKLAHOMA										
1. Jan. 5	5 a.m.	Grady	(1)	(1)	(1)	0	0	(3)	0	Minor damage to 2 houses in vicinity of Chickasha.
2. Feb. 28	9:30 p.m.	Pittsburg	NE	2	(5)	0	0	10,000	(3)	Near Lake McAlester, house unroofed. Garage, chickenhouse, bathhouse, boat, and auto trailer destroyed.
3. Apr. 11	9-10 p.m.	Stephens	NE	2	(1)	0	0	(2)	(3)	Tornado occurred near Comanche; funnel observed.
4. Apr. 11	9-10 p.m.	Stephens	NE	15	(1)	0	0	(2)	(3)	Tornado occurred near Duncan; funnel observed.
5. Apr. 11	9-10:30 p.m.	Comanche	NE	10	(5)	0	0	0	0	Funnel aloft sighted near Lawton.
6. Apr. 12	2-3 a.m.	Pawnee and Osage	NE	40	(5)	0	0	(3)	(3)	Tornado reported between Pawnee and Pahuska. Unconfirmed reports of funnels sighted at Yale, Pawnee, and Perry.
7. Apr. 12	2:30 a.m.	Pushmataha	NE	5	440	0	0	(2)	(3)	Buildings unroofed and trees and TV antennas blown down at Antlers. Tornado not confirmed.
8. Apr. 20	6 p.m.	Garvan	NE	(1)	(1)	0	0	0	0	Funnel aloft near Pauls Valley; not observed on ground.
9. Apr. 22	7-11 p.m.	Stephens	NE	15	440	0	2	(2)	(2)	Possibility of tornado near Duncan. Severe damage caused by strong winds and wind-blown hail.
10. Apr. 22	10:30 p.m.	Noble	NE	(4)	(5)	0	0	200	(3)	Buildings demolished on farm 11 miles southeast of Billings.
11. Apr. 22	Night	Caddo	ENE	(1)	(1)	0	0	(3)	0	Funnel sighted in vicinity of Fort Cobb after dark. Accompanying hailstorm destroyed hundreds of acres of grain.
12. Apr. 22	Night	Murray	NE	(1)	(1)	0	0	0	0	Funnel aloft sighted near Sulphur.
13. Apr. 23	Early morning	Seminole	NE	(4)	(5)	0	0	(3)	(3)	Minor damage to farm buildings east of Wewoka.
14. Apr. 23	2:30 a.m.	Bryan	NE	(4)	(5)	0	0	5,000	(3)	Several boathouses damaged at Catfish Bay near Durant.
15. Apr. 26	1:30-2:30 a.m.	Pittsburg	NE	6/200	100	0	0	800	0	Farm buildings twisted and demolished near Kiowa.
16. Apr. 26	Noon-1:30 p.m.	Pottawatomie	NE	(1)	(1)	0	0	2,000	0	Suspected tornado near Shawnee damaged several buildings.
17. Apr. 26 18. Apr. 26	6:15 p.m. 6:15 p.m.	Caddo Caddo	E E	10	(5)	0	0	25,200	100,000	2 tornadoes observed, 1 north, the other south of Carnegie. Reports of damage varied from $50,000 to $100,000 to crops and $15,000 to $25,200 to other property. Hail and rain accompanied storm.

See reference notes at end of table.

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
OKLAHOMA (Cont'd)										
19. Apr. 26	6:30 p.m.	Caddo	NE	2	(5)	0	0	$10,000	$500	Farm buildings demolished and considerable roof damage near Gracemont.
20. Apr. 27	8-10 p.m.	Garfield	NE	(4)	(5)	0	1	1,000	(3)	2 confirmed reports of funnel touching ground, also unconfirmed reports of funnels aloft near Garber.
21. Apr. 27	8:30 p.m.	Grady	E	(1)	(1)	0	0	0	0	Unusually dark cloud aloft observed by several persons near Chickasha.
22. Apr. 27	(1)	Grant	NE	30	(1)	0	0	0	0	Funnel aloft observed near Medford.
23. May 8	8-10 p.m.	Jackson	NE	20	(5)	0	0	1,000	(3)	Suspected tornado accompanied by rain and hail in Duke and Blair areas.
24. May 9	9-11 a.m.	Oklahoma and Canadian	NE	(1)	(1)	0	0	500	(3)	Funnels observed at 2 places in Oklahoma City, El Reno, and Edmond areas.
25. May 9	9-11 a.m.	Oklahoma and Canadian	NE	(1)	(1)					
26. May 10	5 p.m.	Grady	NE	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Minco.
27. May 10	5 p.m.	Beckham	E	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Elk City.
28. May 10	5 p.m.	Custer	E	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Clinton.
29. May 10	5-5:30 p.m.	Caddo	E	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Cogar.
30. May 11	10:15 a.m.	Kiowa	NE	(1)	(1)	0	0	0	0	Funnel clouds aloft observed and 1 observed on ground near Hobart.
31. May 11	10:15 a.m.	Kiowa	NE	(1)	(1)	0	0	0	0	
32. May 11	2 p.m.	Oklahoma	NNE	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Bethany.
33. May 11	4:10-4:25 p.m.	Oklahoma	NE	(4)	(5)	0	0	0	0	Funnel cloud observed just west of Oklahoma City by Weather Bureau personnel appeared to be touching ground. 12 minutes later several funnels aloft observed by same observers northeast of City.
34. May 11	Ditto	Oklahoma	(1)	(1)	(1)	0	0	0	0	
35. May 11	Ditto	Oklahoma	(1)	(1)	(1)	0	0	0	0	
36. May 11	Afternoon	Jackson	(1)	(1)	(1)	0	0	0	0	Funnel cloud reported touching ground near Altus, but no damage reported.
37. May 19	2:59-3:05 p.m.	Oklahoma	NE	(1)	(1)	0	0	0	(3)	Funnel observed by Weather Bureau personnel at Oklahoma City 1 mile southeast of field; appeared to be touching ground at times.
38. May 19	3 p.m.	Oklahoma	NE	(1)	(1)	0	0	0	0	Funnel aloft observed 5 miles southeast of Weather Bureau Airport Station at Oklahoma City by employees.
39. May 19	3:28 p.m.	Oklahoma	NE	(1)	(1)	0	0	0	0	Funnel aloft observed by Weather Bureau personnel at Oklahoma City.
40. May 22	Night	Beaver	(1)	(4)	(5)	0	0	(3)	(3)	Tornado observed striking ground near Balko.
41. May 23	8:35 p.m.	Tulsa	NE	(4)	(5)	0	0	0	0	Funnel aloft observed near Collinsville by highway patrol.
42. May 25	5 a.m.	Jackson	NE	(4)	(5)	0	0	(3)	(3)	Suspected tornado near Altus.
43. May 25	6 p.m.	Ellis	NNE	4	400	0	0	1,000	(3)	Tornado occurred in vicinity of Shattuck.
44. May 25	6 p.m.	Grady	(1)	(4)	(1)	0	0	3,000	(3)	Suspected tornado near Rush Springs.
*45. May 25	6-7 p.m.	Roger Mills	NNE	10	400	2	8	250,000	5,000	Entered State from Texas; at least 7 farmhouses destroyed. Deaths occurred on farm 12 miles southwest of Cheyenne.
46. May 25	6:05 p.m.	Beckham	(1)	3	300	0	0	(3)	(3)	Occurred near Mayfield.
47. May 25	7-8 p.m.	Kingfisher	NE	(4)	(5)	0	0	1,500	1,500	Occurred near Kingfisher.
48. May 25	8-9 p.m.	Dewey	NNE	5	300	0	1	50,000	3,000	Destroyed 5 residences and trailer home near Camargo. Occupant of trailer received severe injuries.
49. May 25	9 p.m.	Grant	NE	12	440	0	1	25,000	5,000	Struck rural farming area and wiped out numerous buildings within city limits of Deer Creek. Virtually every house north and west of business district suffered damage. Man injured when his farmhouse completely demolished, along with barn, chickenhouses, and other outbuildings.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
OKLAHOMA (Cont'd)										
50. May 25	9 p.m.	Kay	NNE	3	500	0	0	$150,000	$10,000	Demolished houses and barns and crumpled steel granaries and machinery in farmland northeast of Tonkawa.
51. May 25	9:26 p.m.	Kay	N	15	500	20	280	8,000,000	15,000	Approximately 400 homes destroyed and an additional 500 damaged. 20 business establishments destroyed and an additional 40 damaged in Blackwell.
52. May 25	11-12 p.m.	Jackson	NE	5	300	0	0	20,000	10,000	Suspected tornado near Duke; considerable hail damage in the area also.
53. May 26	2:30 a.m.	Stephens	(1)	(1)	(1)	0	0	15,000	1,000	Suspected tornado near Velma.
54. May 26	2:30 a.m.	Grady	E	(1)	(1)	0	0	6,000	(3)	Suspected tornado near Chickasha.
55. May 26	3 a.m.	Oklahoma	NE	1/2	50	0	0	20,000	(3)	Tornado moved over southeastern part of Oklahoma City.
56. May 26	3 a.m.	Cleveland	NE	10	75	0	0	(2)	(2)	Suspected tornado near Norman.
57. May 26	3:30 a.m.	Pottawatomie	(1)	(1)	(1)	0	0	(3)	(3)	Shawnee residents reported hearing high winds "very high up" going over City. Roof of 1 house ripped off.
58. May 26	4 a.m.	Payne	NE	(1)	(1)	0	0	(3)	(3)	Suspected tornado near Cushing.
59. May 26	5:20 a.m.	Bryan	NE	4	50	0	0	10,000	(3)	Hit and skip damage evidence of tornado on ground near Durant.
60. May 26	6:45 a.m.	Sequoyah	NE	10	400	0	2	5,000	(3)	Woman and child injured by falling utility pole at Sallisaw.
61. May 27	9 p.m.	Grant	E	(4)	400	0	0	(3)	(3)	Deputy Sheriff of Grant County saw funnel aloft. A few minutes later he saw it touch ground about 15 miles northeast of Medford.
62. May 27	9-10 p.m.	Kay	NE	(4)	(5)	0	0	(3)	(3)	Suspected tornado near Blackwell and Braman, but no funnel observed.
63. May 27	9:15-10:25 p.m.	Kay and Grant	NE	20	300	0	0	(3)	(3)	Storm moved through eastern Grant and northwestern Kay Counties.
64. May 27	10 p.m.	Kay	NE	(1)	(1)	0	0	0	0	Suspected tornado near Tonkawa.
65. May 27	Early night	Payne	NE	(1)	(1)	0	0	0	0	Several funnel clouds aloft observed near Cushing.
66. May 27	Early night	Payne	NE	(1)	(1)	0	0	0	0	
67. May 28	1:30 a.m.	Osage	NE	(1)	(1)	0	0	(3)	(3)	Suspected tornado near Hess Station.
68. May 30	Midnight	Custer	E	4	300	0	0	1,500	(3)	Suspected tornado near Clinton.
69. June 1	4-5 p.m.	Ellis	NE	(1)	(1)	0	0	0	0	2 funnels aloft observed near Shattuck.
70. June 1	4-5 p.m.	Ellis	NE	(1)	(1)	0	0	0	0	
71. June 1	4-5 p.m.	Beaver	NE	15	100	0	0	0	0	Funnel clouds observed near Slapout.
72. June 1	4-5 p.m.	Beaver	NE							
73. June 1	5:30-6:30 p.m.	Harmon	NE	10	400	0	2	3,000	(3)	Funnel cloud observed striking ground in southeastern and northeastern sections of Hollis.
74. June 1	5:30-6:30 p.m.	Washita	NE	(1)	(1)	0	0	0	0	Funnel cloud reported between Elk City and Sentinel.
75. June 1	6:30-7:30 p.m.	Greer	NE	5	200	0	0	1,500	(3)	Funnel cloud observed striking ground at Granite.
76. June 2	3-4 p.m.	Beckham	NE	(1)	(1)	0	0	0	0	Funnel observed on ground east of Erick.
77. June 3	6-7 p.m.	Ellis	NE	(1)	(1)	0	0	1,000	(3)	Farmhouse badly damaged west of Shattuck.
78. June 3	9:15 p.m.	Major	NE	5	200	0	0	(3)	(3)	Funnel reported striking ground and lifting in farm area south of Waynoka.
79. June 4	5:50 p.m.	Comanche	NE	(1)	(1)	0	0	0	0	2 funnels aloft sighted in Cache area.
80. June 4	5:50 p.m.	Comanche	NE	(1)	(1)	0	0	0	0	
81. June 4	6:30-7:30 p.m.	Caddo	NE	15	300	0	0	10,000	2,500	Farm buildings severely damaged near Hydro; roaring noise heard.
82. June 4	7:15-7:45 p.m.	Comanche	NE	(1)	(1)	0	0	0	0	2 funnels sighted aloft near Lawton.
83. June 4	Ditto	Comanche	NE	(1)	(1)	0	0	0	0	
84. June 4	7:30 p.m.	Logan	NE	(1)	(1)	0	0	0	0	Tornadic disturbance reported in vicinity of Crescent.

See reference notes at end of table.

Table 11–Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
OKLAHOMA (Cont'd)										
85. June 4	7:30-8 p.m.	Logan	NE	(1)	(1)	0	0	$0	$0	2 funnels observed aloft near Orlando.
86. June 4	7:30-8 p.m.	Logan	NE	(1)	(1)	0	0	0	0	
87. June 4	8-9 p.m.	Kingfisher	NE	(1)	(1)	0	0	0	0	Funnel aloft reported at Hennessey.
88. June 4	8:30 p.m.	Woods	NE	2	100	0	0	10,000	500	Funnel observed a few feet above ground near Waynoka. Several homes damaged.
89. June 4	10 p.m.	Major	NE	5	300	0	0	1,000	(3)	A few small buildings damaged near Fairview.
90. June 8	11:30 a.m.	Beckham	NE	1	500	0	0	(3)	100,000	Tornado observed on ground 2-1/2 miles southeast of Sayre.
91. June 10	8:50-9:45 a.m.	Delaware	SSW	5-10	(5)	0	0	0	0	Several persons observed funnel aloft near Grove.
92. June 14	8-9 p.m.	Kiowa	NE	15	500	0	0	30,000	15,000	Farm buildings suffered greatest damage. in Snyder area.
93. June 15	6:45 p.m.	Ellis	NE	(1)	(1)	0	0	0	0	3 funnel clouds observed at one time at Shattuck.
94. June 15	6:45 p.m.	Ellis	NE	(1)	(1)					
95. June 15	6:45 p.m.	Ellis	NE	(1)	(1)					
96. June 15	8 p.m.	Ellis	NE	5	500	0	0	25,000	40,000	Many farm buildings destroyed near Arnett.
97. June 16	6-7 p.m.	Ellis	NE	(1)	(1)	0	0	(2)	(3)	Occurred in Arnett area.
98. June 16	7-8 p.m.	Texas	SW	(1)	(1)	0	0	0	0	Funnel cloud in Guymon area, not observed on ground.
99. June 17	5-6 p.m.	Woods	NE	2-4	500	0	0	15,000	2,500	Spotted damage to farm buildings near Alva.
100. June 17	5:48 p.m.	Major	NE	1	(5)	0	0	(3)	(3)	Tornado observed on ground northeast of Ringwood by State Highway Patrol.
101. June 17	6:30-6:45 p.m.	Beckham	NE	(1)	(1)	0	0	(3)	(3)	2 funnels reported observed 2 miles west of Erick.
102. June 17	Ditto	Beckham	NE	(1)	(1)					
103. June 17	8-9 p.m.	Alfalfa	NE	1	100	0	0	5,000	0	Barn unroofed and fences destroyed, trees uprooted and several small buildings destroyed on farm 11 miles southeast of Aline.
104. June 17	8:30-9 p.m.	Oklahoma	NE	20	(1)	0	0	0	0	2 funnels aloft reported over Oklahoma City.
105. June 17	8:30-9 p.m.	Oklahoma	NE							
106. June 17	8:40-8:50 p.m.	Kiowa	ENE	1/2	50	0	0	(3)	(3)	3 funnels aloft observed at one time near Hobart. 1 of these is believed to have touched ground near Lugert.
107. June 17	Ditto	Kiowa	ENE							
108. June 17	Ditto	Kiowa	ENE							
109. June 17	9-10 p.m.	Grady	NE	(1)	(1)	0	0	0	0	Funnel aloft sighted north of Chickasha.
110. June 17	10:20 p.m.	Tillman	NE	3/4	440	0	0	10,000	15,000	Walls of several brick buildings fell outward during storm at Manitou.
111. June 17-18	11p.m.-2a.m	Garvin	SE	(1)	(1)	0	0	(2)	0	Tornado reported west of Wynnewood.
112. June 18	5-6 p.m.	Alfalfa	NE	2	100	0	0	2,500	1,000	Funnels observed by several persons in Cherokee.
113. June 18	5-6 p.m.	Alfalfa	NE							
114. June 18	7-8 p.m.	Woods	NE	3	100	0	0	25,000	1,000	Several farm homes and buildings destroyed near Freedom.
115. June 19	2-3 a.m.	Caddo and Custer	NE	25	300	0	0	1,000	5,000	2 funnel clouds reported at Lake Clinton, 1 near Butler, 1 at Weatherford, and 1 at Hydro.
116. June 19	2-3 a.m.	Ditto	NE							
117. June 19	2-3 a.m	Ditto								
118. June 19	2-3 a.m.	Ditto								
119. June 19	2-3 a.m.	Ditto								
120. June 22	9 p.m.	Ellis	NE	(1)	(1)	0	0	(3)	0	Funnel observed on ground 12 miles north of Gage.
121. June 27	4-5 p.m.	Caddo	SW	15	(1)	0	0	0	0	4 seperate funnel clouds observed by residents of Hydro.
122. June 27	4-5 p.m.	Caddo								
123. June 27	4-5 p.m.	Caddo								
124. June 27	4-5 p.m.	Caddo								
125. June 27	4-5 p.m.	Ellis	NE	(1)	(1)	0	0	0	0	Funnel aloft observed near Gage.
126. July 4	Afternoon	Dewey	NE	(1)	(1)	0	0	500	(3)	Farm buildings damaged in small area 20 miles southwest of Vici.
127. July 15	2:20-3:30 p.m.	Murray	W	1 1/2	300	1	2	15,000	(3)	At Sulphur, drive-in theatre screen blown onto automobile injuring 3 women, 1 of which later died from injuries received.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
OKLAHOMA (Cont'd)										
128. July 23	1-1:30 a.m.	Woodward	NE	2	200	0	0	$1,500	(3)	Store awnings torn off and TV antennas damaged at Fort Supply.
129. July 31	4-4:15 p.m.	Oklahoma	SE	(1)	(1)	0	0	15,000	(3)	Partially completed school building near Arcadia severely damaged.
130. Aug. 4	Afternoon	Rogers	SE	(1)	(1)	0	0	0	$0	Funnel aloft observed near Claremore.
131. Aug. 5	2:30 p.m.	Tillman	NE	(1)	(1)	0	0	5,000	(3)	Tornado reported near Frederick.
132. Aug. 5	Afternoon	Comanche	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed near Lawton.
133. Aug. 7	3 p.m.	Tulsa	NE	5	400	0	0	(3)	(3)	Highway patrol car picked up and turned around by tornado near Tulsa.
134. Aug. 7	4 p.m.	Tulsa	NE	(1)	(1)	0	0	0	0	Highway patrolman observed funnel aloft in Jenks-Bixby area, but did not see it touch ground.
135. Aug. 7	Afternoon	Oklahoma	NE	(1)	(1)	0	0	0	0	Funnel observed aloft at Del City.
OREGON (None reported)										
PENNSYLVANIA										
1. July 1	5 p.m.	Crawford	E	3	(1)	0	0	(2)	0	2 miles south of Conneautville, 2 barns demolished, 2 others unroofed, and 2 residences damaged.
2. Aug. 19	(1)	Lancaster	(1)	(1)	(1)	0	0	50,000	(2)	Tornado reported near Honey Grove during passage of remains of hurricane. Large farmhouse unroofed, exposing interior to heavy rains, and nearby barn damaged and corn in adjoining field flattened.
RHODE ISLAND										
1. May 12	A.m.	Kent	(1)	(1)	(1)	0	0	0	0	Dust devil or small whirlwind observed by several residents of Oakland Beach. Swirl of air created clouds of dust, picked up small objects, and bounced stones off houses.
SOUTH CAROLINA										
1. March 13	8 p.m.	Cherokee	E	(1)	(1)	0	0	50,000	(2)	Occurred 6 miles north of Gaffney.
2. March 13	9 p.m.	Saluda	E	10	1,000	2	10	500,000	(2)	At Ridge Springs, 20 homes, several barns, a cannery, and several stores destroyed.
3. Apr. 6	1:20 p.m.	Chester	E	1 1/2	300	0	0	3,000	1,000	In Fort Lawn area, a church and several homes destroyed.
4. Apr. 24	6 p.m.	Chesterfield	E	(4)	(5)	0	0	200,000	(2)	Tornado at Cheraw dipped out of severe hailstorm.
5. May 24	9 p.m.	Aiken	NE	15	(5)	0	0	10,000	1,000	Moved from north Augusta area, through Horsecreek Valley, then through Clearwater, Bath, and Aiken.
6. June 11	11:30 a.m.	Richland	NE	(4)	(5)	0	0	4,000	0	At Columbia, 2 houses damaged.
7. June 23	4 p.m.	Anderson	NE	(4)	100	0	0	3,000	(2)	At Generostee, barn and garage destroyed.
8. Aug. 10	2:30 p.m.	Horry	W	(4)	200	0	4	10,000	0	At Conway, 1 house and several outbuildings destroyed.
9. Aug. 10	6 p.m.	Dillon	WSW	8	75	0	0	1,000	200	Damage occurred 6 miles northeast of Dillon, north of Floydale and Latta.
10. Dec. 4	5:45 p.m.	Marlboro	NE	1 1/2	100	0	0	55,000	0	At Brownsville, 2 homes and several barns destroyed and other property damaged.
SOUTH DAKOTA										
1. Apr. 19	2 p.m.	Dewey	N	(1)	30	0	0	(3)	0	Small tornado developed in local area 5 miles northeast of Eagle Butte. Damage confined to 1 farmstead.
2. Apr. 19	2:45-2:50 p.m.	Corson	NNE	7	50	0	2	5,500	0	8 miles west of Trail City, tornado damaged 2 farms. The 2 injured were in government grain bin which was lifted into air.
3. Apr. 19	2:50-3 p.m.	Corson	NW	4	50	0	0	1,300	0	Small tornado hit 2 farmsteads 3 miles west of Trail City.

See references notes at end of table.

TORNADO DATA

Table 11—Continued

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
SOUTH DAKOTA (Cont'd)										
4. Apr. 19	Mid-afternoon	Walworth	N	5	(1)	0	0	(2)	$0	Major damage to 2 farms, minor damage to 2 additional farms at Alaska.
5. Apr. 19	Mid-afternoon	Potter	NNE	4	100	0	0	$6,000	0	Damage confined to several farms 8 miles southeast of Gettysburg.
6. Apr. 19	Mid-afternoon	Potter	NNE	11	30-100	0	0	4,300	0	Small buildings, telephone poles, fences, and barns on 3 farmsteads near Gettysburg damaged.
7. Apr. 19	4:08-4:35 p.m.	Potter	NNE	20	20-30	0	0	6,500	0	Chaotic and turbulent cloud conditions. Damage confined to 2 farmsteads 8 miles west of Gettysburg. Funnel seen at 4:35 p.m.
8. Apr. 19	6 p.m.	Brown	N	4	50	0	0	3,400	0	In New Hope and Highland Townships, tornado damaged buildings on 4 farmsteads.
9. Apr. 19	6-6:10 p.m.	Edmunds	NNE	8	100	0	0	(2)	0	In Clear Lake and Richland Townships, tornado damaged buildings on 5 farmsteads; 1 farmstead practically demolished.
10. June 1	7:30 p.m.	Hand	NE	(1)	(1)	0	0	0	0	Funnel cloud aloft sighted at Burdette.
11. June 19	2:08 p.m.	Pennington	S	(1)	(1)	0	0	0	0	Funnel cloud aloft observed by meteorologist at Rapid City.
12. June 19	2:23 p.m.	Pennington	S	(1)	(1)	0	0	0	0	Funnel cloud aloft observed by meteorologist at Rapid City.
13. June 28	5:25 p.m.	Brown	NNE	(1)	(1)	0	0	0	0	2 small funnel formations first seen west of Aberdeen. These rapidly combined into 1 funnel cloud, but did not reach ground. Funnel cloud remained intact for only several minutes.
14. June 28	6:30 p.m.	Brown	E	3 1/2	50	0	0	50,000	(3)	Funnel formed 3/4 mile west of Ferney, circled across western part of town, then continued eastward for 2-1/2 miles. Damage confined to 1 farm and western part of Ferney which included damage to 2 barns, silo, 2 homes, 1 elevator, 6 buildings, many small sheds, trees, etc.
15. July 1	3:15 p.m.	Edmunds	NE	(1)	(1)	0	0	(2)	(2)	At Bowdle, small girl and pony lifted, carried 1/4 mile without injury. Small buildings wrecked or moved on foundations.
16. July 1	7 p.m.	Buffalo	NE	3/4	220	0	0	(3)	(3)	At Gannvally tornado touched ground once, but not at building locations.
17. Aug. 23	6 p.m.	Hughes	SE	(1)	(1)	0	0	0	0	Airline pilot sighted funnel cloud aloft near Pierre.
18. Aug. 28	Evening	Grant	SW	1 1/2	(1)	0	0	7,000	300	Tornado reported south of Milbank; several farm buildings razed.
19. Sept. 20	11:15-11:30 a.m.	Butte	ENE	1 1/4	150-200	0	0	3,500	100	Demolished several farm buildings 1/4 mile southeast of Newell.
TENNESSEE										
1. Feb. 1	11 p.m.	Bedford	NE	10	1,000	0	0	200,000	(3)	In Bell Buckle section, 1 home destroyed and 400 damaged, 104 other buildings destroyed and 200 damaged.
2. Feb. 1	11 p.m.	Grundy	NE	2	300	0	0	10,000	0	In Killiantown community, several houses damaged and 6,000-capacity chickenhouse destroyed. Stacked lumber reported blown about like match sticks.
3. March 4	10:54 p.m.	Robertson and Sumner	ENE	5	1,000	0	4	300,000	(3)	Occurred in Mitchellville area; 30 homes destroyed or damaged, 20 barns and a school building destroyed; and chickens and livestock killed.
4. March 5	3 p.m.	Smith	ENE	1/2	100	0	3	10,000	(3)	Struck in sparsely settled community in Carthage area.
5. March 5	7 p.m.	De Kalb and Wilson	ENE	20	500	0	0	50,000	(3)	Skipped across the 2 counties.
6. March 5	8 p.m.	Hawkins	ENE	4	300	0	6	200,000	(3)	12 homes and 50 outbuildings destroyed in Surgoinsville area.

See reference notes at end of table.

Table 11–Continued

TORNADO DATA

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons: Killed	Number of persons: Injured	Estimated damage: Property (exclusive of crops)	Estimated damage: Crops	Remarks Year 1955
TENNESSEE (Cont'd)										
. March 20	7:20 p.m.	Lawrence	(1)	(1)	(1)	0	2	$5,000	(3)	1 house and 1 barn destroyed 15 miles southeast of Lawrenceburg.
. March 21	2 p.m.	Lawrence	(1)	(1)	(1)	0	0	5,000	(3)	2 houses and 1 barn destroyed 6 miles north of Lawrenceburg.
. March 25	5:30 p.m.	Jefferson, Hamblen, and Cocke	ENE	50	(1)	0	0	500,000	(3)	Numerous houses, barns, and outbuildings destroyed or damaged in Dandridge, Morristown, White Pine, and Newport.
0. Apr. 23	Early morning	Sumner	NE	10	300	0	0	100,000	(3)	Near Gallatin, 2 large barns destroyed and roof of another damaged.
1. Apr. 24	Early morning	Bledsoe	(1)	5	300	0	0	50,000	(3)	Several farm buildings destroyed and 10 homes damaged.
2. May 12	4:30 p.m.	Putnam	(1)	10	300	0	0	10,000	$2,500	Many roofs blown away and several barns damaged in communities of Mount Herman and Buck Mountain.
3. May 12	5:58 p.m.	Rutherford	(1)	1/4	20	0	0	20,000	(3)	Near Murfreesboro, drive-in theater screen destroyed and grandstand unroofed.
TEXAS										
. Feb. 4	1:49 p.m.	(1)	(1)	(1)	(1)	0	0	0	0	Funnel cloud reported by pilot 67 miles west-southwest of Houston; apparently did not reach ground.
. Feb. 21	(1)	Nueces	(1)	(1)	(1)	0	0	0	0	Waterspout observed over Corpus Christi Bay.
. March 20	8:30 a.m.	Montague	NE	24	800	0	1	35,000	0	Roofs blown off several houses and barns barns, and stone-block garage badly damaged in Montague, Bonita, and Nocona areas.
. March 20	4:15 p.m.	Bell	E	4	6	0	1	(2)	(2)	Tornado moving from Killeen to Lone Star upset trailer injuring small girl. Other trailers upset and homes unroofed.
. March 20	5:43 p.m.	Gonzales	NE	5	400	0	0	15,000	0	8 miles northeast of Nixon, windmills, barns, and homes destroyed or damaged.
. March 20	9:30 p.m.	Harrison	NE	3	300	0	0	6,000	200	In Waskom area, 7 homes damaged.
. March 20	P.m.	Navarro	SE	1/4	50	0	0	1,000	0	In Blooming Grove area, car picked up and 2 homes, garage, and barn damaged. Funnel observed.
. March 21	(1)	Bell	(1)	3	(1)	0	0	3,000	0	4 miles north of Temple, barn destroyed, brooderhouse wrecked, and light pole snapped off.
. March 31	3 p.m.	Cooke	NE	(1)	(1)	0	0	60,000	200	Heavy damage to farm buildings, houses, and equipment in Gainesville area.
0. March 31	(1)	McLennan	(1)	(1)	(1)	0	0	0	0	Funnel cloud observed a few miles south of Waco, broke up without touching ground.
1. Apr. 5	5:30 p.m.	Jones and Throckmorton	ENE	50	(1)	0	6	1,000,000	0	700 homes and 450 other buildings damaged in Stamford and 152 homes damaged in Woodson area.
2. Apr. 6	8:30 a.m.	Clay	NE	(1)	(1)	0	0	1,500	0	At Henrietta, 2 barns damaged.
3. Apr. 6	2:20 a.m.	Grayson	NE	6	(1)	0	0	(2)	(2)	Trees uprooted, and barns and garages blown down at Collinsville.
4. Apr. 6	2:30 a.m.	Fannin and Grayson	E	30	(1)	1	44	2,750,000	100,000	Heaviest damage near Sherman. Injuries all occurred in Grayson County. Occurred in Sherman, Bonham, and Dodd City.
. Apr. 6	2:45 a.m.	Clay and Jack	ENE	25	(1)	0	7	80,000	1,800	Tornado moved from Antelope to Newport. Damage at Shannon, Postoak, and Buffalo Springs.
. Apr. 6	4 a.m.	Cass	NE	(1)	100	0	0	1,000	0	9 miles north of Linden, house and garage damaged.
7. Apr. 6	4:20 a.m.	Cooke	ENE	16	(1)	0	0	123,000	0	At Era, Valley View, and Gainesville 48 homes and 52 other buildings damaged. 500-barrel oil tank carried 100 feet and steel silo crumpled.
. Apr. 6	4:30 a.m.	Denton and Grayson	ENE	35	(1)	0	1	50,000	0	Occurred at Sanger, Pilot Point, and Van Alstyne; 75 homes damaged in Denton County. Steel power poles snapped.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
TEX (Cont'd)										
19. Apr. 6	7 a.m.	Hopkins and Franklin	E	(1)	(1)	0	0	(2)	(2)	From Sulphur Bluff to Hagansport, 3 barns destroyed and some houses damaged.
20. Apr. 12	9:47 a.m.	Robertson	(1)	(1)	(1)	0	0	0	0	At Hearne, funnel cloud reported trailing from cloud, probably never touched ground.
21. Apr. 12	10:35 a.m.	Lee	(1)	(1)	(1)	0	0	0	0	At Dime Box, funnel reported not reaching ground.
22. Apr. 12	11:30 a.m.	Anderson	NE	6	200	0	7	80,000	0	At Frankston, 5 homes destroyed and 63 damaged.
23. Apr. 12	11:55 a.m.	Houston	(1)	(1)	(1)	0	0	(2)	0	1 mile east of Latexo, several barns, a farmhouse, and office of rodeo grounds destroyed.
24. Apr. 12	12:15 a.m.	Cherokee	NE	(1)	50	0	0	800	0	3 miles southeast of Rusk, garage, chickenhouse and barn wrecked. 16 houses reported damaged.
25. Apr. 12	7-8 p.m.	Taylor	(1)	(1)	(1)	0	0	(2)	(2)	Occurred at Trent. No details available
26. Apr. 18	6:45 p.m.	Wheeler	NE	10	100	0	0	7,000	0	House destroyed and other buildings dam aged at Kelton.
27. Apr. 22	11:25 p.m.	Jones	(1)	(1)	(1)	0	0	0	0	Reported over Fort Phantom Hill Lake.
28. Apr. 22	11:25 p.m.	Runnels	(1)	(1)	(1)	0	0	0	0	Funnel cloud sighted 4 miles south of Bradshaw not reaching ground.
29. Apr. 29	3:30 p.m.	Cooke and Grayson	(1)	(1)	(1)	0	0	0	0	Pilot reported funnel cloud 10 miles west of Tioga.
30. May 5	7 p.m.	Reeves	E	(1)	(1)	0	1	(2)	(2)	Wrecked buildings on 2 farms west of Peco
31. May 6	6:15 p.m.	Bell	SE	15	30	1	1	435,000	200,000	In Temple area, storm collapsed building killing 1 person and injuring another; roof blown off school and Veteran's Hospital and theater damaged.
32. May 6	6:30 p.m.	McCulloch	(1)	(1)	(1)	0	0	(2)	0	8 miles southwest of Brady, homes damaged and trees uprooted.
33. May 6	7:30 p.m.	Milam	SE	5	100	0	0	115,000	0	In Davilla area, 2 churches demolished, another moved on foundation, and roof ripped off school.
34. May 8	3:15 p.m.	Mitchell	NE	1	8	0	0	2,000	0	At Colorado City, barn and small house demolished and outbuilding and garage damaged.
35. May 10	4:30 p.m.	Howard	E	(1)	(1)	0	0	0	0	3 tornadoes moved over open farmland northwest and northeast of Big Spring.
36. May 10	4:30 p.m.	Howard	E	(1)	(1)	0	0	0	0	
37. May 10	4:30 p.m.	Howard	E	(1)	(1)	0	0	0	0	
38. May 10	6 p.m.	Lamb	NE	(1)	(1)	0	0	200	0	3 miles west of Sudan, barn and trees damaged.
39. May 10	P.m.	Scurry	(1)	(1)	(1)	0	0	0	0	Funnel not touching ground observed 20 miles southwest of Snyder.
40. May 10	P.m.	Lubbock	(1)	40	(1)	0	0	0	0	Tornado tracked across 40-mile swath of farmland southwest of Lubbock.
41. May 10	P.m.	Hockley	(1)	(1)	(1)	0	0	0	0	2 funnel clouds sighted 2 miles south o Sundown; 1 stayed on ground for about 2 minutes.
42. May 10	P.m.	Hockley	(1)	(1)	(1)	0	0	0	0	
43. May 11	10:30 a.m.	Nueces	(1)	(1)	(1)	0	0	(3)	0	5 funnel clouds sighted over Robstown and Calallen, 2 dipped down causing damage to roofs and garages.
44. May 11	10:30 a.m.	Nueces	(1)	(1)	(1)	0	0			
45. May 11	10:30 a.m.	Nueces	(1)	(1)	(1)	0	0			
46. May 11	10:30 a.m.	Nueces	(1)	(1)	(1)	0	0			
47. May 11	10:30 a.m.	Nueces	(1)	(1)	(1)	0	0			
48. May 11	11:15 a.m.	Hale	NE	(1)	(1)	0	0	0	0	Funnel not touching ground sighted 5 miles west of Plainview Airport.
49. May 11	1:10 p.m.	Nueces	NE	(1)	(1)	0	0	0	0	Funnel reported over northeastern Corpu Christi.
50. May 11	1:15 p.m.	Ector	(1)	(1)	(1)	0	0	0	0	Funnel not touching ground reported ove Odessa.

See reference notes at end of table.

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
TEXAS (Cont'd)										
May 11	**4:15 p.m.**	**Eastland**	ENE	20	(1)	0	0	(2)	$0	From Cisco to Ranger, tornado observed.
May 11	**6:04 p.m.**	**Tarrant**	NE	(1)	(1)	0	0	$0	0	Funnel not reaching ground observed on north side of Forth Worth.
May 11	**P.m.**	**Childress**	(1)	(1)	(1)	0	0	0	0	2 funnels reported, one 20 miles north, the other 6 miles southwest of Childress.
May 11	**P.m.**	**Childress**	(1)	(1)	(1)	0	0	0	0	
May 11	**P.m.**	**Navarro**	NE	(1)	(1)	0	0	(2)	0	Several homes, barns, and garages wrecked and oil-well derrick blown over at Mildred.
May 11	**(1)**	**Kimble**	(1)	(1)	(1)	0	0	0	0	5 funnels not reaching ground sighted near Junction City.
May 11	**(1)**	**Kimble**	(1)	(1)	(1)	0	0	0	0	
May 11	**(1)**	**Kimble**	(1)	(1)	(1)	0	0	0	0	
May 11	**(1)**	**Kimble**	(1)	(1)	(1)	0	0	0	0	
May 11	**(1)**	**Kimble**	(1)	(1)	(1)	0	0	0	0	
May 12	**(1)**	**Hale**	(1)	(1)	(1)	0	0	0	0	3 funnels not reaching ground reported in Plainview area.
May 12	**(1)**	**Hale**	(1)	(1)	(1)	0	0	0	0	
May 12	**(1)**	**Hale**	(1)	(1)	(1)	0	0	0	0	
May 14	**1:34 p.m.**	**Winkler**	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed at Kermit.
May 14	**6:50 p.m.**	**Tarrant**	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 12 miles west-northwest of Fort Worth.
May 15	**7:30 p.m.**	**Bexar**	(1)	(1)	(1)	0	0	(2)	0	Electric lines and poles damaged in St. Hedwig area.
May 15	**(1)**	**Guadaloupe**	(1)	(1)	(1)	0	0	(2)	(2)	Crops and outbuildings damaged 5 miles east of Seguin.
May 16	**4:20 p.m.**	**Scurry**	NE	12	(1)	0	0	(2)	0	Barn unroofed 5 miles northeast of Snyder. Several barns unroofed and windmill toppled near Camp Springs.
May 16	**(1)**	**Dickens**	(1)	(1)	(1)	0	0	0	0	2 funnel clouds observed at McAdoo.
May 16	**(1)**	**Dickens**	(1)	(1)	(1)	0	0	0	0	
May 16	**(1)**	**Garza**	NE	(1)	(1)	0	0	(2)	0	Trees and windmill blown down and barn unroofed near Justiceburg.
May 17	**4 p.m.**	**Lamb**	SE	(1)	(1)	0	0	0	0	2 funnels aloft seen 3 to 4 miles southeast of Olton.
May 17	**4 p.m.**	**Lamb**	SE	(1)	(1)	0	0	0	0	
May 17	**11:30 p.m.**	**Runnels**	E	(1)	(1)	0	0	(2)	0	Barn overturned and outbuildings wrecked northeast of Ballinger.
May 17	**(1)**	**Hardeman**	(1)	(1)	(1)	0	0	(2)	0	Car overturned 3 miles south of Chillicothe.
May 18	**5:30 a.m.**	**Matagorda**	E	2-3	(1)	0	0	(2)	(2)	Roofs lifted and buildings blown from foundations at Palacios.
May 18	**9:35 a.m.**	**Karnes**	(1)	(1)	(1)	0	0	0	0	Pilot reported funnel cloud reaching ground 15 miles west of Kenedy.
May 18	**12:28 p.m.**	**Hockley**	NE	1/8	600	0	0	(2)	(2)	Uprooted trees and blew down 2 small buildings 1-1/2 miles north of Levelland.
May 18	**P.m.**	**Lavaca**	SE	20	300	0	0	30,000	20,000	Demolished garage and poultry house and caused damage to business establishments and houses at Moulton.
May 18	**(1)**	**Bailey**	(1)	(1)	(1)	0	0	(2)	0	8 miles southeast of Farwell, barn blown down and trees uprooted.
May 18	**(1)**	**Irion**	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 8 miles north of Barnhart.
May 18	**(1)**	**Deaf Smith**	NNE	(1)	(1)	0	0	0	0	Funnel aloft observed 4 miles west of Hereford.
May 19	**1:20 a.m.**	**Tarrant**	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed over Fort Worth.
May 19	**5 a.m.**	**Lavaca**	E	2	50	0	0	35,000	(2)	At Hallettsville, oil mill, church, gin, cafe, funeral home, and several houses damaged.
May 19	**3:50 p.m.**	**Limestone**	NE	(1)	(1)	0	0	(2)	0	3 miles northwest of Kosse, farm home and outbuilding damaged.
May 19	**5:30 p.m.**	**Baylor**	NE	(1)	880	0	0	0	0	Funnel aloft sighted between Bomarton and Goree.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
TEXAS (Cont'd)										
87. May 19	(1)	Angelina	(1)	1/2	60	0	0	$800	$0	West of Diboll, homes and outbuildings damaged and barn destroyed.
88. May 19	(1)	Angelina	NE	(1)	(1)	0	0	0	0	Funnel 3 miles north of Lufkin observed aloft.
89. May 19	(1)	Wichita	(1)	(1)	(1)	0	0	0	0	Funnel east of Wichita Falls observed aloft.
90. May 19	(1)	Knox and King	(1)	(1)	(1)	0	0	0	0	3 funnels sighted between Guthrie and Benjamin, 1 touching ground.
91. May 19	(1)	Know and King	(1)	(1)	(1)	0	0	0	0	
92. May 19	(1)	Knox and King	(1)	(1)	(1)	0	0	0	0	
93. May 22	7 p.m.	Howard	E	✓6 100	30	0	0	500	(2)	Roof lifted from barn about 8 miles northwest of Big Spring.
94. May 22	8 p.m.	Hale	NE	3	400	0	0	500	1,000	Near Abernathy, 2 barns and trailer destroyed.
95. May 22	8:20 p.m.	Hansford	NE	(1)	(1)	0	0	0	0	12 miles south of Spearman, tornado struck rural area.
96. May 22	(1)	Lubbock	(1)	(1)	(1)	0	0	(2)	0	Outbuildings on 2 farms destroyed 20 to 25 miles northeast of Lubbock.
97. May 23	7 a.m.	Wharton	NW	1/2	(1)	0	0	(2)	(2)	2 barns destroyed, trees uprooted, and corn damaged at Wharton.
*98. May 25	3:17 p.m.	Collingsworth and Wheeler	NE	30	1,060	0	5	(2)	(2)	Tornado first sighted 10 miles north of Wellington, touching ground in open field. Entered Oklahoma 15 miles east of Wheeler. 5 homes destroyed, some livestock killed, and many buildings damaged from 8 miles east to 20 miles northeast of Shamrock.
99. May 25	10:30 p.m.	Fisher	NE	1/4	440	0	0	✓7 1,200	0	Barn demolished, killing bull, and buildings and homes on 2 farms damaged southeast of Rotan.
100. May 25	11:30 p.m.	Knox	NE	10	300	0	0	5,000	2,000	Barn and chickenhouse destroyed, 2 houses damaged, windows broken, and trees uprooted 9 miles west of Knox Cit
101. May 25	P.m.	Sterling	NE	(1)	440	0	0	0	0	Funnel touched ground 12 miles southwest of Sterling City.
102. May 26	1:38 a.m.	Wichita	NE	1	(1)	0	0	✓7 25,000	0	Business structures, homes, and trees damaged at Wichita Falls.
103. May 26	5 a.m.	Parker	E	(1)	(1)	0	0	0	0	Funnel sighted 5 miles south of Weathe ford not reaching ground.
104. May 26	8:30 a.m.	Navarro	(1)	(1)	(1)	0	0	(2)	0	At Corsicana, plate-glass window broken and 2 other buildings damaged.
105. May 30	9:23 p.m.	Winkler	SE	2	600	0	0	50,000	0	Building collapsed, 25 houses damaged, garages and outbuildings overturned, trees uprooted, and firehouse unroofe
106. June 1	4:10 p.m.	Lipscomb	NE	3	(1)	0	0	0	0	Funnel aloft observed over Darrouzett.
107. June 1	11:20 p.m.	Jones	(1)	(1)	(1)	0	0	0	0	Tornado observed by State police near Hawley.
108. June 1	(1)	Childress	(1)	(1)	(1)	0	0	(2)	(2)	In Kirkland area, barn demolished and roof of another damaged.
109. June 3	3:40 p.m.	Dickens	SE	20	(1)	0	0	0	0	Funnel aloft observed at Spur.
110. June 3	5:20 p.m.	Hemphill and Lipscomb	NE	(1)	(1)	0	0	0	(3)	Tornado reached ground near Glazier an Higgins.
111. June 3	6 p.m.	Young	SE	3	(1)	0	0	(2)	(2)	10 miles west of Newcastle, houses unroofed, windows broken, and barns and cotton damaged.
112. June 3	(1)	Haskell	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Haskell
113. June 3	(1)	Archer	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Archer.
114. June 3	(1)	Wilbarger	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed at Harrol and Vernon.
115. June 4	4:30 p.m.	Brown	E	2	(1)	0	0	6,000	0	At Cross Cut, school gymnasium demolished, 10 houses unroofed, and granery and shed damaged.

See Reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
TEXAS (Cont'd)										
116. June 4	8:45 p.m.	McLennan	(1)	(1)	(1)	0	0	$0	$0	Funnel aloft observed 20 miles west-northwest of Waco.
117. June 5	4:18 p.m.	Williamson	SE then SW	8-10	(1)	0	0	(2)	(2)	At Florence, trees uprooted and roofs and powerlines damaged.
118. June 5	7:30 p.m.	La Salle	SE	1	(1)	0	1	75,000	0	At Encinal, several warehouses, lumber company building, filling station, portion of restaurant, and several houses demolished; large trees uprooted and power poles twisted off to ground.
119. June 5	7:50 p.m.	Angelina	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 3 miles northwest of Lufkin.
120. June 5	10 p.m.	Colorado	SE	(1)	(1)	0	0	(2)	(2)	In Weimar area, barn, garage, and outbuildings swept away; iron roofing carried 1 mile.
121. June 5	11:30 p.m.	Calhoun	(1)	(1)	(1)	0	0	3,000	(2)	At Port Lavaca, boathouses demolished, and motorcruiser, 2 light planes, and several houses damaged.
122. June 8	2:15 a.m.	McLennan	(1)	(1)	(1)	0	0	0	0	Funnel cloud aloft observed southwest of Waco.
123. June 8	3 p.m.	Eastland	SE	2	75	0	1	3,000	(8)	At Ranger, trees uprooted, and buildings and houses unroofed.
124. June 8	P.m.	Dickens	NE	(1)	(1)	0	0	0	0	Funnel aloft observed at Spur.
125. June 8	(1)	Archer and Baylor	(1)	(1)	(1)	0	0	(2)	0	At Lake Diversion, boathouse cabin carried 200 yards and smashed on ground.
126. June 16	1:20 a.m.	Eastland	(1)	(1)	(1)	0	0	0	0	Tornado reaching ground observed by State police in Gorman area.
127. June 16	3:30 p.m.	Potter, Carson, Armstrong, and Donley	NE, then S, then SE	1/4	60-70	0	2	15,000	12,000	7 tornadoes reported in Panhandle and Ashtola areas. Barn destroyed, roofs damaged, and truck with farmer in it picked up.
128. June 16	3:30 p.m.	Ditto	Ditto							
129. June 16	3:30 p.m.	Ditto	Ditto							
130. June 16	3:30 p.m.	Ditto	Ditto							
131. June 16	3:30 p.m.	Ditto	Ditto							
132. June 16	3:30 p.m.	Ditto	Ditto							
133. June 16	3:30 p.m.	Ditto	Ditto							
134. June 16	3:30 p.m.	Nolan, Taylor, and Runnels	SE	45	(1)	0	0	500,000	100,000	Barn destroyed 6 miles west of Abilene. Windows and roofs of churches, hospitals, city hall, and schools damaged in Nolan, Winters, and Ballinger areas.
135. June 16	5 p.m.	Hemphill	E	4	1,320	0	0	8,000	0	13 miles south-southwest of Higgins, windmills destroyed.
136. June 16	(1)	Haskell	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed at Haskell.
137. June 16	(1)	Crockett	(1)	(1)	(1)	0	0	(2)	(2)	In Ozona area, 3 ranches struck, destroying barn and damaging house.
138. June 17	3:03 p.m.	Ochiltree	NE	(1)	(1)	0	0	0	0	Funnel aloft observed by highway patrol 15 miles east of Perryton.
139. June 17	3:28 p.m.	Carson	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 8 miles southeast of White Deer.
140. June 17	7:10 p.m.	Collingsworth	SE	10-15	(1)	0	2	500,000	0	In Wellington area, 3 homes destroyed and 6 to 10 business buildings damaged.
141. June 18	7:38 a.m.	Calhoun	SSE	(1)	(1)	0	0	0	0	3 funnels aloft observed 20 miles southwest of Palacios.
142. June 18	7:38 a.m.	Calhoun	SSE	(1)	(1)	0	0	0	0	
143. June 18	7:38 a.m.	Calhoun	SSE	(1)	(1)	0	0	0	0	
144. June 18	4:07 p.m.	Swisher	(1)	(1)	(1)	0	0	0	0	2 funnels aloft observed by highway patrol at Happy.
145. June 18	4:07 p.m.	Swisher	(1)	(1)	(1)	0	0	0	0	
146. June 18	4:10 p.m.	Randall	(1)	(1)	(1)	0	0	0	0	2 funnels aloft reported by sheriff's office, 11 miles southwest of Canyon.
147. June 18	4:10 p.m.	Randall	(1)	(1)	(1)	0	0	0	0	
148. June 18	7 p.m.	Crosby	SE	(1)	(1)	0	0	(2)	(2)	Tornado confined to small area around Ralls and Cone.
149. June 18	7:05 p.m.	Parmer	(1)	(1)	(1)	0	0	(2)	(2)	Pilot reported signs of tornado in open country 20 miles north-northeast of Muleshoe.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons Killed	Number of persons Injured	Estimated damage Property (exclusive of crops)	Estimated damage Crops	Remarks
TEXAS (Cont'd)										
150. June 18	8 p.m.	Sherman	NE	(1)	(1)	0	0	(2)	$0	3 funnels reported; apparently touched ground in open country in Stratford area.
151. June 18	8 p.m.	Sherman	NE	(1)	(1)					
152. June 18	8 p.m.	Sherman	NE	(1)	(1)					
153. June 18	8:42 p.m.	Dickens	(1)	(1)	(1)	0	0	0	0	Funnel aloft sighted by aircraft near Spur.
154. June 19	5:35 p.m.	Sherman	(1)	(1)	(1)	0	0	(2)	(2)	Highway patrol reported definite tornado path on ground 10 miles north of Stratford.
155. June 20	3 p.m.	McLennan	(1)	(1)	(1)	0	0	(2)	(2)	2 small tornadoes moved through open fields in Brooken and Cottonwood communities.
156. June 20	3 p.m.	McLennan	(1)	(1)	(1)	0	0			
157. June 21	7:55 a.m.	Nueces	(1)	(1)	(1)	0	0	0	0	Waterspout observed over Corpus Christi Bay about 3 miles offshore near Gregor
158. June 21	10 a.m.	Nueces	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 2-1/2 miles south of Cabaniss Field, Corpus Christi.
159. June 21	10:50 a.m.	Aransas	(1)	(1)	(1)	0	0	0	0	Pilot reported funnel aloft 10 miles north of Ingleside.
160. June 22	3:15 p.m.	Nueces	E	(1)	(1)	0	0	(2)	(2)	Near Robstown, roof and 1 wall blown off small shed and hogpen destroyed.
161. June 23	11:25 p.m.	Hockley	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed at Levelland.
162. June 28	9 p.m.	Hockley	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed near Anton.
163. July 1	9:40 a.m.	Galveston	NW	(1)	(1)	0	0	0	0	Waterspout observed 6 miles east-northeast of Galveston.
164. July 4	7:40 p.m.	Tom Green	N	(1)	(1)	0	0	0	0	Dust devil with funnel aloft observed south of Goodfellow Field, San Angelo.
165. July 18	10:31 a.m.	Jefferson	N	(1)	(1)	0	0	0	0	Funnel aloft observed 1-1/2 miles south southwest of Beaumont Airport.
166. July 18	11:15 a.m.	Dawson	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 8 miles southeast of Lamesa.
167. July 19	2:56 p.m.	Galveston	(1)	(1)	(1)	0	0	0	0	Waterspout with funnel observed 12 to 1 miles east-northeast of Galveston.
168. July 23	10:30 a.m.	Chambers	NE	(1)	(1)	0	0	0	0	Funnel aloft observed 8 miles south of Anahuac.
169. July 28	3:40 p.m.	Wilbarger	W	(1)	(1)	0	0	(2)	0	5 funnels sighted by highway patrol 5 miles south of Vernon, 1 touched groun destroying farm building.
170. July 28	3:40 p.m.	Wilbarger	W	(1)	(1)					
171. July 28	3:40 p.m.	Wilbarger	W	(1)	(1)					
172. July 28	3:40 p.m.	Wilbarger	W	(1)	(1)					
173. July 28	3:40 p.m.	Wilbarger	W	(1)	(1)					
174. July 28	5 p.m.	Wharton	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed north-northeast of El Campo.
175. July 29	9:37 a.m.	Liberty	(1)	(1)	(1)	0	0	0	0	Pilot reported funnel aloft 20 miles northeast of Anahuac.
176. July 29	4:02 p.m.	Galveston	(1)	(1)	(1)	0	0	0	0	Waterspout sighted over East Bay 5 mile north-northeast of Galveston.
177. Aug. 2	8:31 a.m.	Howard	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 10 miles north o Big Spring; funnel reentered cloud 1 minute later.
178. Aug. 8	3 p.m.	Parker	SW	3	(1)	0	0	2,000	0	Tornado at Whitt came very close to ea damaging roofs, homes, and outbuilding
179. Aug. 11	9:02 a.m.	Galveston	SE	(1)	(1)	0	0	0	0	Waterspout observed 4 to 5 miles east-northeast of Galveston.
180. Aug. 12	1:37 p.m.	Mitchell	(1)	(1)	(1)	0	0	0	0	Pilot reported funnel reaching ground between Loraine and Roscoe.
181. Aug. 14	3:25 p.m.	Matagorda	W	(1)	(1)	0	0	0	0	Funnel aloft observed 4 miles west of Palacios.
182. Aug. 15	1:18 p.m.	Nueces	WNW	(1)	(1)	0	0	0	0	Funnel aloft observed by pilot and Nav ground personnel in Corpus Christi ar
183. Aug. 15	(1)	Matagorda	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed at Palacios.
184. Aug. 18	Early evening	Coke	SE	2	150-200	0	0	(2)	(2)	In Bronte area, trees twisted, telephone poles downed, and small barns damaged.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
TEXAS (Cont'd)										
185. Aug. 29	3:55 a.m.	Jefferson	NNE	(1)	(1)	0	0	$0	$0	Funnel aloft observed over Lake Sabine, 15 miles east of Port Arthur.
186. Aug. 29	5 p.m.	Hamilton	NW	1/4	17	0	0	300	0	In Edson area, machine shed destroyed and trees uprooted.
187. Aug. 30	11:08 a.m.	Jefferson	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed over Lake Sabine.
188. Aug. 30	2:10 p.m.	Wharton	(1)	(1)	(1)	0	4	(2)	0	House destroyed in Hungerford area.
189. Aug. 31	9:14 a.m.	Nueces	W	1	17	0	0	0	0	3 small waterspouts observed over Bay east of Naval Air Station, Corpus Christi; 1 touched surface.
190. Aug. 31	9:14 a.m.	Nueces	W	1	17	0	0	0	0	
191. Aug. 31	9:14 a.m.	Nueces	W	1	17	0	0	0	0	
192. Aug. 31	12:35 p.m.	Matagorda	(1)	(1)	(1)	0	0	0	0	Waterspout observed 4 to 5 miles south of Palacios over Bay, touching waters surface.
193. Aug. 31	2:57 p.m.	Harris	(1)	(1)	(1)	0	0	0	0	Pilot reported funnel aloft over Almeda.
194. Sept. 13	2:13 p.m.	Nueces	(1)	(1)	(1)	0	0	0	0	Funnel observed by airline pilot 16 miles north of Corpus Christi.
195. Sept. 14	2 p.m.	Harris	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 1 mile northeast of Katy.
196. Sept. 15	1:40 p.m.	Harris	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed 8 miles south-southwest of Houston Airport.
197. Sept. 18	1:22 p.m.	Nueces	(1)	(1)	(1)	0	0	0	0	Pilot reported waterspout 1 mile north of Corpus Christi over Nueces Bay.
198. Sept. 18	2:22 p.m.	Victoria	NNW	(1)	(1)	0	0	0	0	Funnel aloft observed 12 miles north of Victoria Airport.
199. Sept. 20	(1)	Hidalgo	(1)	(1)	(1)	0	0	(2)	0	At Edinburg, garage destroyed and 2 houses moved.
200. Sept. 25	4:30 a.m.	Young	N	1	50	0	0	25,000	0	At Olney, 4 business buildings and several other structures demolished.
201. Sept. 25	(1)	Castro	(1)	(1)	(1)	0	0	0	0	Funnel aloft observed at Dimmitt.
202. Oct. 6	5:37 p.m.	Henderson	(1)	(1)	(1)	0	0	0	0	3 funnel clouds reported between Athens and Franklin.
203. Oct. 6	5:37 p.m.	Henderson	(1)	(1)	(1)	0	0	0	0	
204. Oct. 6	5:37 p.m.	Henderson	(1)	(1)	(1)	0	0	0	0	
UTAH										
1. June 1	12:25 p.m.	Uintah	NE	(1)	(1)	0	0	1,200	(3)	In Maeser area, treetops sheared off. Tomato plants had to be replanted.
2. June 16	1 p.m.	Sanpete	NE	3	400	0	0	5,000	0	2 funnels observed in Fayette area. Some large trees uprooted and large branches and limbs twisted and torn off. Sheds damaged and metal roofing carried across valley and wrapped around trees and posts. Second funnel went north of town, but did no damage as it hit undeveloped area.
3. June 16	1 p.m.	Sanpete	E	(1)	(1)	0	0	0	0	
VERMONT										
1. Mar. 22	5-5:01 p.m.	Bennington	W	6 60	30	0	0	5,000	0	Struck Shaftsbury, leveled 2 barns and a silo. Power and telephone lines torn down.
2. Oct. 24	4:45 p.m.	Windsor	(1)	1	(1)	0	0	5,000	0	Struck Perkinsville, large barn destroyed, and part of roof of big covered bridge ripped off. Trees smashed down or ripped up.
VIRGINIA										
1. June 11	3 p.m.	Botetourt	E	(4)	(5)	0	0	4,500	0	Occurred in Blue Ridge community.
WASHINGTON										
(None reported)										
WEST VIRGINIA										
(None reported)										
WISCONSIN										
1. Apr. 18	1 a.m.	Crawford	NNE	(1)	(1)	0	0	25,000	0	Possible tornado. 50-foot barn lifted from foundation and demolished near Prairie du Chien. Near Lynxville, farm building demolished and major damage occurred to utility lines, antennas, homes and cars.

See reference notes at end of table.

Table 11—Continued

TORNADO DATA

Year 1955

State and date	Hour	County	Direction of advance	Length of path, miles	Width of path, yards	Number of persons		Estimated damage		Remarks
						Killed	Injured	Property (exclusive of crops)	Crops	
WISCONSIN (Cont'd)										
2. Apr. 18	4 p.m.	Iowa	E	13	(1)	0	0	(2)	$0	Possible tornado at Dodgeville, Ridgeway, and Barneveld destroyed barn and house, and twisted and uprooted trees.
3. Apr. 18	5 p.m.	Dane	ESE	(1)	(1)	0	0	$250,000	0	In Belleville and vicinity, barns destroyed, trees uprooted, and heavy damages to buildings, automobiles, and machinery.
4. Apr. 18	7 p.m.	Walworth	E	4	(1)	0	1	(2)	0	In Heart Prairie and vicinity, dark funnel cloud observed. 3 barns and 4 other buildings destroyed. Cottage near lake destroyed, utility poles and trees twisted and uprooted doing considerable damage to homes, cars, and utility services.
5. May 3	6 p.m.	Lincoln	ENE	8	(1)	0	2	20,000	0	Possible tornado destroyed 2 barns at Irma, trapping and injuring 2 persons and some livestock. Uprooted trees and falling branches damaged utility lines.
6. May 28	1:15 p.m.	Rock	E	4	100	0	0	20,000	(2)	Possible tornado 7 miles northwest of Janesville destroyed machine shed, end of barn, and all windows of farmhouse wrecked.
7. May 28	3 p.m.	Waupaca	N	3	75	0	4	20,000	(2)	3 miles west of Clintonville, 4 farms in a row damaged. On first farm barn destroyed, other farm buildings damaged, and trees uprooted. On next farm shed and chicken coop downed. On third farm silo, henhouse, and garage leveled. On fourth farm corncrib torn to bits. Funnel observed.
8. July 22	2 p.m.	Pierce	NE	2	220	0	0	1,000	(3)	Possible tornado at Elmwood twisted and uprooted trees.
9. July 31	5:10 p.m.	Marquette	SSE	(1)	(1)	0	0	50,000	25,000	Possible tornado destroyed 10 barns and other small buildings. 1 farmstead damaged at Newton showed evidence of tornado action.
10. Aug. 21	2:30 p.m.	Door	(1)	(1)	(1)	0	0	0	0	Waterspout 75 feet in diameter sighted at Riley's Point, near Little Sturgeon.
WYOMING										
1. June 26	7 p.m.	Goshen	(1)	(1)	(1)	0	0	(2)	0	House near Veteran, southwest of Tarrington, smashed.
2. June 26	Early evening	Goshen	(1)	(1)	(1)	0	0	0	0	Tornado sighted 4 miles west of Whalen.
3. June 27	1 p.m.	Platte	NE	(1)	(1)	0	3	5,000	0	Tornado apparently touched ground in small area 14 miles northwest of Chugwater; destroyed 1 set of farm buildings.
4. July 25	2:30 p.m.	Converse	NNE	2	800	0	0	(3)	(3)	
ALASKA										
(None reported)										
HAWAII										
1. Mar. 19	5:20 p.m.	Hawaii	WSW	1/2	10	0	0	1,000	0	2 waterspouts moved in from sea. 3-car garage leveled and large tree downed by first waterspout as it swept over Hilo. Second waterspout dissipated before reaching town.
2. Mar. 19	5:20 p.m.	Hawaii	WSW	(1)	(1)					

* Denotes State boundary-crossing tornadoes.
C Damage to crops.
T Includes crop damage.
1 Datum not obtained.
2 Losses occurred; amount not reported.
3 Amount of damage reported as small; no monetary estimate.
4 Short.
5 Narrow.
6 Yards instead of miles.
7 Additional losses occurred.
8 Considerable damage.

able 12

TORNADO SUMMARY

Year 1955

State	January	February	March	April	May	June	July	August	September	October	November	December	Total
LABAMA													
Number			1	2						3			6
Days			1	2						1			4
Deaths			0	5						0			5
Injuries			1	21						6			28
Damage			$20,000	$120,500						$27,000			$167,500
RIZONA													
Number						2	1						3
Days						1	1						2
Deaths						0	0						0
Injuries						0	0						0
Damage						1/ 8,000	0						1/ 8,000
RKANSAS													
Number		1	2	3	7	1				2	7		23
Days		1	1	3	3	1				1	2		12
Deaths		0	0	1	0	0				0	1		2
Injuries		0	1	2	10	0				1	19		33
Damage		2,800	18,600	22,300	1/ 367,500	300				22,000	1/ 425,700		1/ 859,200
ALIFORNIA (None)													
OLORADO													
Number				1	4	9	5						19
Days				1	4	5	4						14
Deaths				0	0	0	0						0
Injuries				0	0	0	0						0
Damage				10,000	15,500	1/ 250,000	1/ 14,000						1/ 289,500
ONNECTICUT													
Number										2			2
Days										1			1
Deaths										0			0
Injuries										0			0
Damage										7,500			7,500
ELAWARE													
Number								1					1
Days								1					1
Deaths								0					0
Injuries								0					0
Damage								3,000					3,000
ISTRICT OF COLUMBIA (None)													
ORIDA													
Number	1	1		[illegible]	1	9	15	6	3	2	1		41
Days	1	1		2	1	6	4	5	2	2	1		25
Deaths	0	0		0	0	0	0	0	0	0	0		0
Injuries	0	0		0	0	0	0	0	0	0	0		0
Damage	(2)	0		5,400	0	0	5,500	(2)	0	(2)	(2)		1/ 10,900
EORGIA													
Number				8	5			2		1			16
Days				3	4			1		1			9
Deaths				0	0			0		1			1
Injuries				1	2			0		2			5
Damage				108,500	1/ 560,000			1/ 500		(3)			1/ 669,000
IDAHO													
Number						3		2					5
Days						2		1					3
Deaths						0		0					0
Injuries						0		0					0
Damage						0		(3)					(3)
LINOIS													
Number			2	7	4			4		4	6	2	29
Days			2	3	1			2		1	2	1	12
Deaths			0	0	0			0		0	0	0	0
Injuries			0	3	3			2		2	0	0	10
Damage			30,000	476,000	218,000			77,000		1/ 156,000	1/ 238,000	35,300	1/ 1,230,300
NDIANA													
Number			6		1	1	1			1	5		15
Days			4		1	1	1			1	1		9
Deaths			0		0	0	0			0	0		0
Injuries			10		3	0	0			0	18		31
Damage			1,902,000		600,000	5,000	3,000			5,000	277,000		2,792,000
WA													
Number				6	1								7
Days				4	1								5
Deaths				0	0								0
Injuries				0	0								0
Damage				63,800	27,000								90,800
NSAS													
Number				11	44	82	4		5				146
Days				3	10	10	3		3				29
Deaths				0	80	0	0		1				81
Injuries				0	272	0	0		0				272
Damage				1/ 56,600	1/ 2,484,900	1/ 515,000	1/ 4,000		1/ 3,500				1/ 3,064,000
ENTUCKY													
Number			2	1									3
Days			2	1									3
Deaths			0	0									0
Injuries			11	2									13
Damage			250,000	50,000									300,000
ouisiana													
Number				1	1	1							3
Days				1	1	1							3
Deaths				0	0	0							0
Injuries				0	0	0							0
Damage				15,000	1/ 15,000	0							1/ 30,000
INE													
Number							1						1
Days							1						1
Deaths							0						0
Injuries							0						0
Damage							0						0
RYLAND (None)													

See reference notes at end of table.

TORNADO SUMMARY

State	January	February	March	April	May	June	July	August	September	October	November	December	Total
MASSACHUSETTS													
Number							2			2			
Days							2			1			
Deaths							0			0			
Injuries							10			0			1
Damage							1/ 2,500			3,300			1/ 5,8
MICHIGAN													
Number					3	4	2	3					1
Days					1	4	2	2					
Deaths					0	0	0	0					
Injuries					1	0	0	1					
Damage					168,000	17,700	3,200	14,000					202,9
MINNESOTA													
Number				2		4	7		3				1
Days				2		3	3		2				1
Deaths				0		0	1		1				
Injuries				0		8	15		0				
Damage				1/ 100,000		1/ 10,000	1/ 1,607,500		175,500				1/ 1,893,0
MISSISSIPPI													
Number			1	3		1				1			
Days			1	2		1				1			
Deaths			0	0		0				0			
Injuries			0	0		0				2			
Damage			1/ 75,000	219,500		50,000				100,000			1/ 444,5
MISSOURI													
Number			5	14	10		2		2	2	1		
Days			2	2	3		2		2	2	1		
Deaths			0	0	0		0		0	0	0		
Injuries			18	2	3		0		0	0	2		
Damage			1/ 197,000	1/ 294,300	1/ 22,000		1/ 10,000		1/ 19,500	14,100	10,000		1/ 566,9
MONTANA													
Number						1	3						
Days						1	1						
Deaths						0	0						
Injuries						0	0						
Damage						0	27,000						27,0
NEBRASKA													
Number				1	6	11	11	3	4				
Days				1	2	6	4	2	2				
Deaths				0	0	2	1	0	0				
Injuries				0	1	21	13	0	0				
Damage				1,500	1/ 7,000	1/ 517,000	1/ 111,300	4,500	1/ 13,000				1/ 654,3
NEVADA													
(None)													
NEW HAMPSHIRE													
Number					1					1			
Days					1					1			
Deaths					0					0			
Injuries					2					0			
Damage					100					3,500			3,6
New Jersey													
Number										1			
Days										1			
Deaths										0			
Injuries										0			
Damage										(3)			(
NEW MEXICO													
Number					1								
Days					1								
Deaths					0								
Injuries					0								
Damage					1,500								1,5
NEW YORK													
Number								1					
Days								1					
Deaths								0					
Injuries								0					
Damage								35,000					35,0
NORTH CAROLINA													
Number			1	1	2	2		1					
Days			1	1	2	2		1					
Deaths			1	0	0	0		0					
Injuries			1	0	0	2		1					
Damage			25,000	8,000	17,000	510,000		10,000					570,
NORTH DAKOTA													
Number						4	7	4					
Days						3	4	2					
Deaths						0	2	0					
Injuries						0	19	0					
Damage						1/ 10,000	214,000	166,000					1/ 390,
OHIO													
Number			5	1							1		
Days			3	1							1		
Deaths			1	0							0		
Injuries			11	0							1		
Damage			670,000	1,000							500,000		1,171,
OKLAHOMA													
Number	1	1		20	46	57	4	6					1
Days	1	1		7	12	14	4	3					
Deaths	0	0		0	22	0	1	0					
Injuries	0	0		3	292	2	2	0					
Damage	(3)	1/ 10,000		1/ 144,700	1/ 8,610,000	1/ 322,500	1/ 32,000	1/ 5,000					1/ 9,124,
OREGON													
(None)													
PENNSYLVANIA													
Number							1	1					
Days							1	1					
Deaths							0	0					
Injuries							0	0					
Damage							(2)	1/ 50,000					1/ 50,
RHODE ISLAND													
Number					1								
Days					1								
Deaths					0								
Injuries					0								
Damages					0								

See reference notes at end of table.

Table 12—Continued

TORNADO SUMMARY

Year 1955

State	January	February	March	April	May	June	July	August	September	October	November	December	Total
SOUTH CAROLINA													
Number			2	2	1	2		2				1	10
Days			1	2	1	2		1				1	8
Deaths			2	0	0	0		0				0	2
Injuries			10	0	0	0		4				0	14
Damage			1✓$550,000	1✓$204,000	$11,000	1✓$7,000		$11,200				$55,000	1✓$838,200
SOUTH DAKOTA													
Number				9		5	2	2	1				19
Days				1		3	1	2	1				8
Deaths				0		0	0	0	0				0
Injuries				2		0	0	0	0				2
Damage				1✓27,000		1✓50,000	(2)	7,300	3,600				1✓87,900
TENNESSEE													
Number		2	7	2	2								13
Days		1	5	2	1								9
Deaths		0	0	0	0								0
Injuries		0	15	0	0								15
Damage		1✓210,000	1✓1,070,000	1✓150,000	1✓32,500								1✓1,462,500
TEXAS													
Number		2	8	19	76	57	14	17	8	3			204
Days		2	3	6	17	14	7	10	6	1			66
Deaths		0	0	1	1	0	0	0	0	0			2
Injuries		0	2	65	7	6	0	4	0	0			84
Damage		0	1✓120,400	1✓4,195,100	1✓923,200	1✓1,222,000	(2)	1✓2,300	1✓25,000	0			1✓6,488,000
UTAH													
Number						3							3
Days						2							2
Deaths						0							0
Injuries						0							0
Damage						1✓6,200							1✓6,200
VERMONT													
Number			1							1			2
Days			1							1			2
Deaths			0							0			0
Injuries			0							0			0
Damage			5,000							5,000			10,000
VIRGINIA													
Number						1							1
Days						1							1
Deaths						0							0
Injuries						0							0
Damage						4,500							4,500
WASHINGTON (None)													
WEST VIRGINIA (None)													
WISCONSIN													
Number				4	3		2	1					10
Days				1	2		2	1					6
Deaths				0	0		0	0					0
Injuries				1	6		0	0					7
Damage				1✓275,000	1✓60,000		1✓76,000	0					1✓411,000
WYOMING													
Number						3	1						4
Days						2	1						3
Deaths						0	0						0
Injuries						3	0						3
Damage						1✓5,000	(3)						1✓5,000
ALASKA (None)													
HAWAII													
Number			2										2
Days			1										1
Deaths			0										0
Injuries			0										0
Damage			1,000										1,000
WEST INDIES (None)													
TOTALS													
Number	2	7	45	120	220	263	85	56	26	26	21	3	874
			*44		*219	*262					*20		*870
Days	2	6	28	51	70	85	48	36	18	16	8	2	370
			**15	**20	**27	**28	**23	**24	**13	**6	**4		**170
Deaths	0	0	4	7	103	2	5	0	2	1	1	0	125
Injuries	0	0	80	102	602	42	59	12	0	13	40	0	950
Damage	(2)	1✓$222,800	1✓$4,934,000	1✓$6,548,200	1✓$14,140,200	1✓$3,510,200	1✓$2,110,000	1✓$385,800	1✓$240,100	1✓$343,400	1✓$1,450,700	$90,300	1✓$33,975,700

* Corrected for boundary-crossing tornadoes.
** Tornado days for country as a whole.
1. Additional losses occurred.
2. Losses occurred; amount not reported.
3. Amount of damage reported as small; no monetary estimate.

NUMBER OF TORNADOES, TORNADO DAYS, AND RESULTING LOSSES BY YEARS; 1916-1955

Table 13.

Year	Number reported	Number tornado days	Total loss of life	Most deaths in a single tornado	Total reported property losses	Number of tornadoes causing losses of	
						$100,000	$1,000,000
1916	90	36	150	30	$2,264,500	6	1
1917	121	38	509	101	15,007,700	22	5
1918	81	45	135	36	7,431,150	19	1
1919	65	35	206	59	6,861,500	9	2
1920	87	49	498	87	15,007,500	24	7
1921	106	55	202	61	5,456,300	13	1
1922	108	65	135	16	6,880,000	20	0
1923	102	59	109	23	2,968,725	8	0
1924	130	58	376	85	26,072,350	25	6
1925	119	64	794	689	24,039,900	29	1
1926	111	56	144	23	4,323,950	16	0
1927	164	63	540	92	43,455,650	28	7
1928	203	79	92	14	13,235,600	25	4
1929	197	73	274	40	10,112,400	30	1
1930	192	72	179	41	12,289,100	28	3
1931	94	57	36	6	3,215,900	7	1
1932	152	67	394	37	8,888,525	11	1
1933	260	96	362	34	16,190,640	31	5
1934	147	77	47	6	4,424,950	9	0
1935	182	77	70	11	4,661,430	15	0
1936	159	73	552	216	26,228,550	17	6
1937	148	76	29	5	3,155,875	11	0
1938	220	78	183	32	8,793,457	18	3
1939	155	75	87	27	5,891,930	10	2
1940	128	65	65	18	6,015,320	9	1
1941	118	57	53	25	4,492,650	15	0
1942	170	68	384	65	15,268,950	32	3
1943	155	63	58	5	12,198,400	25	4
1944	173	67	275	100	21,594,150	34	7
1945	126	68	210	69	22,069,800	25	8
1946	109	66	78	15	12,267,015	31	3
1947	171	80	313	169	23,994,680	42	5
1948	190	74	140	33	40,699,650	53	6
1949	262	84	212	58	27,367,380	45	7
1950	210	92	70	18	13,637,300	31	1
1951	300	119	34	6	29,484,275	27	7
1952	270	104	230	57	35,193,900	48	10
1953	532	151	516	116	224,345,900	43	15
1954	690	177	35	6	28,367,400	41	3
1955	870	170	125	80	33,975,700	54	4
Total	7,867	3,028	8,901	---	---	986	141
Median	155	68	---	---	---	---	---

Table 14

HAILSTORM LOSSES

Year 1955

Section	January		February		March		April		May		June		July	
	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops
Alabama					(1)	(1)	[2] $32,000	$10,000		$106,000		$1,000		$3,000
Arizona											[4] $98,000	237,100		28,000
Arkansas			(5)		$300		[3] 47,300	[3] 100,500		[3] 106,000		135,000		
California								(5)		(5)	[2] 10,000	[2] 15,000		
Colorado											1,050,000	25,000	$40,400	134,000
Connecticut											(5)	(5)		
Delaware					(1)						(5)	(5)		
District of Columbia					(1)									
Florida					(5)	$50,000	175,300	[3] 75,000	(5)	[3] 25,000				
Georgia					58,000	9,500	5,000	25,500	$6,500	130,000	[4] 3,000	[4] 30,000		
Idaho													[2,3] 15,200	[2,4] 270,000
Illinois			$50,000		105,000		175,000	75,000	100,000	120,000	26,000	410,000	35,000	260,000
Indiana					72,000		[2] 38,500					202,000		2,000
Iowa									2,000	3,300	1,500	4,000	2,000	444,000
Kansas					20,000		300	13,000	[3] 231,700	[3] 643,000	[3] 136,700	[3] 1,827,500	[3] 4,100	[3] 150,000
Kentucky					[2,4] 500,000		100	[2] 500	500	[2] 2,000		[2,4] 52,000	5,000	[4] 8,200
Louisiana			(1)				[2,4] 50,000	[2,4] 50,000	(1)	[3] 20,000	(1)	[3] 3,000	(5)	(5)
Maine									(5)	(5)	(5)	(5)		
Maryland					(1)		(1)	(1)			[4] 2,000	(5)	[4] 3,000	[4] 2,000
Massachusetts					(1)				(1)		(5)	[3] 400	[4,8] 25,000	
Michigan									5,000	6,000	20,000	300,000		25,000
Minnesota							[4,6] 25,800	(5)			(1)	[3] 127,000	[3,4,6] 110,000	[3] 245,000
Mississippi			(5)		(5)		2,500	(5)	(1)	(1)	[4] 7,000	[3,4] 23,000		
Missouri					140,000		[3,4] 123,500	[3,4] 100,000	[3] 2,000	(5)	[3,4] 39,000	[3,4] 296,000	[4] 300	(1)
Montana											[4] 700	[3,4] 241,000	[3] 5,139,100	[3] 5,017,700
Nebraska									5,000	75,000	155,000	1,106,000	26,000	643,000
Nevada											(1)	(1)		

HAILSTORM LOSSES

Table 14—Continued

Section	August		September		October		November		December		Crop season April—Sept.		Total		
	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property and crops
Alabama											[2] $32,000	[3] $120,000	[2,3] $32,000	[3] $120,000	[2,3] $152,000
Arizona		$10,900									[4] 98,000	276,000	[4] 98,000	276,000	[4] 374,000
Arkansas			(1)	(1)							[3] 47,300	[3] 341,500	[3] 47,600	[3] 341,500	[3] 389,100
California											[2] 10,000	[2,3] 15,000	[2] 10,000	[2,3] 15,000	[2,3] 25,000
Colorado		75,000	$2,000	$32,000							1,092,400	266,000	1,092,400	266,000	1,358,400
Connecticut	(5)	(5)									(5)	(5)	(5)	(5)	(5)
Delaware											(5)	(5)	(5)	(5)	(5)
District of Columbia													(1)	(1)	(1)
Florida											[3] 175,300	[3] 100,000	[3] 175,300	[3] 150,000	[3] 325,300
Georgia	(5)										[3,4] 14,500	[4] 185,500	[3,4] 72,500	[4] 195,000	[3,4] 267,500
Idaho	[6] $6,000	[2] 1,000									[2,3,6] 21,200	[2,4] 271,000	[2,3,6] 21,200	[2,4] 271,000	[2,3,4,6] 292,200
Illinois				105,000	$10,000		$1,500,000	$20,000			336,000	970,000	2,001,000	990,000	2,991,000
Indiana							[7] 60,000				[2] 38,500	204,000	[2,7] 170,500	204,000	[2,7] 374,500
Iowa											5,500	451,300	5,500	451,300	456,800
Kansas			[3] 25,000	[3] 5,000							[3] 397,800	[3] 2,638,500	[3] 417,800	[3] 2,638,500	[3] 3,056,300
Kentucky		5,000		1,500			[2,4] 68,000	2,000			5,600	[2,4] 69,200	[2,4] 573,600	[2,4] 71,200	[2,4] 644,800
Louisiana											[2,3,4] 50,000	[2,3,4] 73,000	[2,3,4] 50,000	[2,3,4] 73,000	[2,3,4] 123,000
Maine											(5)	(5)	(5)	(5)	(5)
Maryland											[3,4] 5,000	[3,4] 2,000	[3,4] 5,000	[3,4] 2,000	[3,4] 7,000
Massachusetts											[3,4,8] 25,000	[3] 400	[3,4,8] 25,000	[3] 400	[3,4] 25,400
Michigan		2,000		30,000	50,000	$5,000		100			25,000	363,000	75,000	368,100	443,100
Minnesota	(1)	(5)	[6] 8,500	[6] 15,000							[3,4,6] 144,300	[3,6] 387,000	[3,4,6] 144,300	[3,6] 387,000	[3,4,6] 531,300
Mississippi	(1)	20,000			[4] 3,000	1,000	(5)	1,100			[4] 9,500	[3,4] 43,000	[3,4] 12,500	[3,4] 45,100	[3,4] 57,600
Missouri			1,300				2,500				[3,4] 166,100	[3,4] 396,000	[3,4] 308,600	[3,4] 396,000	[3,4] 704,600
Montana	500	161,000									[3,4] 5,140,300	[3,4] 5,419,700	[3,4] 5,140,300	[3,4] 5,419,700	[3,4] 10,560,000
Nebraska				(1)							186,000	1,824,000	186,000	1,824,000	2,010,000
Nevada											(1)	(1)	(1)	(1)	(1)

See reference notes at end of table.

Table 14 -Continued

HAILSTORM LOSSES

Year 1955

Section	January		February		March		April		May		June		July	
	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops
New Hampshire													$5,000	$40,000
New Jersey											$5,000	$25,000		
New Mexico							$25,000				[4] 30,000		1,000	1,000
New York									$2,200	(5)	(1)	110,000		
North Carolina					$22,000		450,000	$373,500	27,000	$216,000	234,900	4,980,700	54,400	325,300
North Dakota												480,000	13,000	3,111,000
Ohio											1,000	(1)		
Oklahoma			(1)		(5)	(5)	[2,3,4,6] 111,500	[2,3] 869,000	[2,3,4,6] 127,100	[2,3,4] 167,500	[2,3,4] 772,300	[2,3,4] 2,207,000	(1)	(1)
Oregon									1,000	1,500			600	700
Pennsylvania											[2,3,6] 115,000	[3] 25,000		
Rhode Island											(5)	(5)		
South Carolina						[2,4] $2,500,000	[4] 1,025,000	[4] 1,236,000		1,000	3,600	[2,4] 278,000	100	100
South Dakota							[2] 30,000			(5)	[3] 15,000	[3] 20,000	[2,4] 60,000	[2,4] 200,000
Tennessee					100,000	(1)			10,000	20,000	25,000	10,000		
Texas					[3,4] 55,000	56,000	[3,6] 620,000	[3] 60,000	[3] 208,500	[3] 445,500	[3,4] 2,970,000	[3,4] 1,815,000	[3] 5,000	[3] 328,000
Utah											(1)	(1)	(5)	(5)
Vermont													(5)	(5)
Virginia					[4] 75,000	[4] 2,500	[2,4] 375,000	[2,4] 45,000	[2,4] 125,000	[2,4] 250,000	[2,3,4,6] 115,500	[2,4,6] 140,000	(5)	(1)
Washington											(5)	[3] 10,000	[2,4,6] 726,000	[2,4,6] 1,475,000
West Virginia					(5)									
Wisconsin							(5)		47,000	50,000	(5)	5,000	[3] 5,000	[3] 30,000
Wyoming											235,000	250,000	(1)	20,000
Hawaii														
West Indies														
Total			[3] 50,000		[2,3,4] 1,147,300	[2,3,4] 2,618,000	[2,3,4,6] 3,311,800	[2,3,4] 3,033,000	[2,3,4,6] 900,500	[2,3,4] 2,387,800	[2,3,4,6] 6,071,200	[2,3,4,6] 15,390,700	[2,3,4,6,8] 6,275,200	[2,3,4,6] 12,763,000

HAILSTORM LOSSES

Table 14—Continued

Section	August		September		October		November		December		Crop season April—Sept.		Total		
	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property and crops
New Hampshire					(1)						$5,000	$40,000	[3] $5,000	$40,000	[3] $45,000
New Jersey											5,000	25,000	5,000	25,000	30,000
New Mexico	$1,000	$7,000									[4] 57,000	8,000	[4] 57,000	8,000	[4] 65,000
New York											[3] 2,200	[3] 110,000	[3] 2,200	[3] 110,000	[3] 112,200
North Carolina		137,000									766,300	6,032,500	788,300	6,032,500	6,820,800
North Dakota	25,000	2,250,000	$12,000	$20,000							50,000	5,861,000	50,000	5,861,000	5,911,000
Ohio											1,000	(1)	1,000	(1)	[3] 1,000
Oklahoma	(1)	(1)									[2,3,4,6] 1,010,900	[2,3,4] 3,243,500	[2,3,4,6] 1,010,900	[2,3,4] 3,243,500	[2,3,4,6] 4,254,400
Oregon											1,600	2,200	1,600	2,200	3,800
Pennsylvania											[2,3,6] 115,000	[3] 25,000	[2,3,6] 115,000	[3] 25,000	[2,3,6] 140,000
Rhode Island											(5)	(5)	(5)	(5)	(5)
South Carolina											[4] 1,028,700	[2,4] 1,515,100	[4] 1,028,700	[2,4] 4,015,100	[2,4] 5,043,800
South Dakota	[2,4] 41,000	[2,4] 110,000		(5)							[2,3,4] 146,000	[2,3,4] 330,000	[2,3,4] 146,000	[2,3,4] 330,000	[2,3,4] 476,000
Tennessee											35,000	30,000	135,000	[3] 30,000	[3] 165,000
Texas	[3] 5,500	[3] 43,000	80,000	6,500		[4] $250,000					[3,4,6] 3,889,000	[3,4] 2,698,000	[3,4,6] 3,944,000	[3,4] 3,004,000	[3,4,6] 6,948,000
Utah											(5)	(5)	(5)	(5)	(5)
Vermont											(5)	(5)	(5)	(5)	(5)
Virginia											[2,3,4,6] 615,500	[2,3,4,6] 435,000	[2,3,4,6] 690,500	[2,3,4,6] 437,500	[2,3,4,6] 1,128,000
Washington											[2,3,4,6] 726,000	[2,3,4,6] 1,485,000	[2,3,4,6] 726,000	[2,3,4,6] 1,485,000	[2,3,4,6] 2,211,000
West Virginia													(5)		(5)
Wisconsin											[3] 52,000	[3] 85,000	[3] 52,000	[3] 85,000	[3] 137,000
Wyoming	500,000	1,005,000	5,000	500							740,000	1,275,500	740,000	1,275,500	2,015,500
Alaska											0	0	0	0	0
Hawaii											0	0	0	0	0
West Indies											0	0	0	0	0
Total	[2,3,4,6] 579,000	[2,3,4] 3,826,900	[3,6] 133,800	[3,6] 215,500	[3,4] 63,000	[4] 256,000	[2,3,4,7] 1,630,500	23,200			[2,3,4,6,8] 17,271,500	[2,3,4,6] 37,616,900	[2,3,4,6,7,8] 20,162,300	[2,3,4,6] 40,514,100	[2,3,4,6,7] 60,676,400

1. Damage reported as small
2. Includes damage from attendant heavy rain.
3. Additional losses occurred.
4. Includes damage from attendant high winds.
5. Losses occurred; amount not reported.
6. Includes lightning damage.
7. Includes damage from attendant tornado.
8. Includes crop damage.

Table 15

HAILSTORMS LOSSE FOR PAST YEARS

Year	Property (exclusive of crops)	Crops	Total
1933			$6,773,800
1934			11,390,400
1935			9,471,400
1936	$1,953,900	$9,053,100	11,007,000
1937	1,797,400	10,991,900	12,789,300
1938	2,634,700	12,170,200	14,804,900
1939	358,800	3,153,700	3,512,500
1940	2,245,900	7,162,400	9,408,300
1941	1,854,600	11,449,100	13,303,700
1942	1,513,500	16,407,600	17,921,100
1943	3,149,200	33,854,200	37,003,400
1944	9,061,000	49,987,900	59,048,900
1945	$3,608,200	$31,513,400	$35,121,600
1946	9,783,800	30,382,000	40,165,800
1947	3,829,300	54,348,900	58,178,200
1948	12,163,200	56,180,800	68,344,000
1949	6,336,400	41,646,600	47,983,000
1950	21,072,800	28,094,500	49,167,300
1951	26,416,400	49,015,800	75,432,200
1952	9,454,400	40,094,300	49,548,700
1953	11,457,800	38,330,900	49,788,700
1954	20,177,900	52,517,700	72,695,600
1955	20,162,300	40,514,100	60,676,400

WINDSTORM LOSSES

Table 16

(Windstorms other than tornadoes)

Year 1955

Section	January		February		March		April		May		June		July	
	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops
Alabama			$520,000		$113,000		[1] $393,900		$136,700		$5,800	$100	$5,800	$10,500
Arizona							30,000		25,000		240,000	10,000	25,300	
Arkansas			11,300		[1] 31,500		[3] 544,300	$3,000	[1,5] 342,000	$30,000	[1] 2,000	1,000	(4)	[3] 9,000
California	$10,000	(4)			500		96,900	[3] 20,000	(2)		1,100		[5] 4,000	(2)
Colorado					150,000		100,000		4,000	11,000			4,000	
Connecticut	(2)				[3] 10,000		(2)		7,000		(2)	(2)	[3] 10,000	
Delaware											5,000			
District of Columbia											15,000			
Florida					(2)	$50,000	716,200	25,000	[1,3] 15,600	(2)	[1,3] 15,300		(2)	
Georgia							16,000	(4)	30,000	2,000	3,300	500	[5,8] 6,000	(2)
Idaho					16,500		3,000				[1,8] 25,000	[1,3,8] 10,000	500	
Illinois							225,000		1,360,000	80,000	15,000		185,000	35,000
Indiana					1,048,500		45,000		[9] 609,000		17,000	6,000	71,500	500
Iowa							160,000		446,400		552,000	1,002,500	15,000	10,000
Kansas							13,400		[3] 534,800	[3] 60,000	[3] 126,000	[3] 15,000	40,000	
Kentucky					[1] 818,000		[1,5] 84,600		[1] 176,000	2,000	[1,8] 15,000		[8] 15,000	[5,8] 22,000
Louisiana			[1] 50,000		70,000		(2)	(2)	[3] 95,000	[3,8] 25,000	7,000	(4)	[5] 15,000	1,000
Maine	(2)				[3] 5,000				[3] 2,000		[7] 1,500			
Maryland					70,000		2,000	(4)	25,000		[1] 29,500		[1] 26,000	(2)
Massachusetts	(2)		(2)		67,000		[3,6] 500,000		[3] 7,000		(2)	(2)	[3,7] 25,000	
Michigan					[6] 6,700,000		60,000		700,000	100,000	50,000	10,000	690,000	90,000
Minnesota							[3,5] 178,900	(2)	90,000	(2)	[3,5] 7,000		[1,5,8] 769,600	[1,8] 15,000
Mississippi			300,000		[3] 3,000	(2)	18,000	[3] 8,500	[3] 24,000	[3] 10,000	[8] 51,000	[3,8] 21,000		
Missouri							25,000		[3] 20,000	[3] 10,000	19,000	[8] 45,000	[1] 100,000	
Montana										(2)		10,000	10,000	10,000
Nebraska							10,000		[3] 66,000		[3] 2,000		[3] 64,000	
Nevada									(4)	(4)				

See Reference notes at end of table.

WINDSTORM LOSSES

Table 16 –Continued

(Windstorms other than tornadoes)

Year 1955

Section	August		September		October		November		December		Crop season April–Sept.		Total		
	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property and crops
Alabama	(2)				$40,000				$30,000		1/3/ $542,200	$10,600	1/3/ $1,245,200	$10,600	1/3/ $1,255,800
Arizona	3/ $11,400										3/ 331,700	10,000	3/ 331,700	10,000	3/ 341,700
Arkansas	(4)				1/5/ 15,500	$2,000					1/3/5/ 888,300	3/ 43,000	1/3/5/ 946,600	3/ 45,000	1/3/5/ 991,600
California	5/ 25,000	(2)					1/6/ $75,000	(4)	4,000,000	(2)	3/5/ 127,000	3/ 20,000	1/3/5/6/ 4,212,500	3/ 20,000	1/3/5/6/ 4,232,500
Colorado									611,500		108,000	11,000	869,500	11,000	880,500
Connecticut	3/7/ 200,000	(2)									3/7/ 217,000	(2)	3/7/ 227,000	(2)	3/ 227,000
Delaware	40,000										45,000		45,000		45,000
District of Columbia											15,000		15,000		15,000
Florida	(2)		(2)		3/ 5,000	(4)	(2)				1/3/ 747,100	3/ 25,000	1/3/ 752,100	3/ 75,000	1/3/ 1 827,100
Georgia	(2)										3/5/8/ 55,300	3/ 2,500	3/5/8/ 55,300	3/ 2,500	3/5/8/ 57,800
Idaho							(2)		25,000		1/8/ 28,500	1/3/8/ 10,000	1/3/8/ 70,000	1/3/8/ 10,000	1/3/8/ 80,000
Illinois	7,000	$15,000	$70,000	$120,000	100,000		515,000				1,862,000	250,000	2,477,000	250,000	2,727,000
Indiana	1/ 5,000		32,000	15,600			125,000	$1,000			1/9/ 779,500	22,100	1/9/ 1,953,000	23,100	1/9/ 1,976.100
Iowa			2,500								1,175,900	1,012,500	1,175,900	1,012,500	2,188,400
Kansas	6,400										3/ 720,600	3/ 75,000	3/ 720,600	3/ 75,000	3/ 795,600
Kentucky	1/5/ 27,000	1/ 8,500	18,000	1,000	1/ 8,000	2,000	6,500				1/5/8/ 335,600	1/5/8/ 33,500	1/5/8/ 1,168,100	1/5/8/ 35,500	1/5/8/ 1,203,600
Louisiana					5,000	5,000					3/5/ 117,000	3/8/ 26,000	3/5/ 242,000	3/8/ 31,000	3/5/8/ 273,000
Maine	3/7/ 100,000										3/7/ 103,500		3/7/ 108,500		3/ 108,500
Maryland	1/ 2,015,000										1/ 2,097,500	(2)	1/ 2,167,500	(2)	1/3/ 2,167,500
Massachusetts	3/7/ 200,000										3/6/7/ 732,000	(2)	3/6/7/ 799,000	(2)	3/6/ 799,000
Michigan	400,000		50,000	2,000	160,000		650,000		20,000		1,950,000	202,000	6/ 9,480,000	202,000	6/ 9,682,000
Minnesota	1/3/5/8/ 589,500	1/8/ 165,000	1/5/ 32,500								1/3/5/8/ 1,667,500	1/3/8/ 180,000	1/3/5/8/ 1,667,500	1/3/8/ 180,000	1/3/5/8/ 1,847,500
Mississippi					110,000	1/ 200,000	8/ 19,000	(4)			3/8/ 93,000	3/8/ 33,500	3/8/ 525,000	1/3/8/ 233,500	1/3/8/ 758,500
Missouri	5,000						3/ 500				1/3/ 169,000	3/8/ 55,000	1/3/ 169,500	3/8/ 55,000	1/3/8/ 224,500
Montana							3/ 10,000	3,000	3/ 41,100	225,000	10,000	3/ 20,000	3/ 61,100	3/ 248,000	3/ 309,100
Nebraska	3,500		13,000								3/ 158,500		3/ 158,500		3/ 158,500
Nevada											(4)	(4)	(4)	(4)	(4)

WINDSTORM LOSSES

Table 16 -Continued

(Windstorms other than tornadoes)

Section	January		February		March		April		May		June		July	
	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops
New Hampshire	(2)				3/ $5,000				3/ $2,000		7/ $1,500			
New Jersey	$15,000		$15,000		75,000		$10,000				30,000		$15,000	
New Mexico				(2)	(2)	(2)	(2)	(2)						
New York					3/5/ 69,900				5/ 570,000	(2)				
North Carolina					10/ 430,000	10/ $6,000,000	300,000		43,000				79,000	23,000
North Dakota							100,000		125,000	$100,000	5,000	$3,000	12,000	18,000
Ohio					500,000		1,000		2,500	(2)	2,500	(4)	169,000	3/ 1,000
Oklahoma			3,000		3/5/6/7/ 532,200		3/5/6/8/ 65,600	3/8/ $53,500	5/ 146,000	1/3/ 27,000	3/5/ 121,800	1/3/8/ 84,500	1/3/5/ 119,600	3/ 1,500
Oregon			250,000	(4)					1/ 16,500	1/ 2,000			5/ 3,500	5/ 6,500
Pennsylvania					3,000,000		1/3/8/ 9,500		1/3/5/ 150,000				1/5/ 150,000	
Rhode Island	(2)				3/ 5,000		(2)		4,000		(2)	(2)	5/ 15,000	
South Carolina	11,500				5/ 10,000		5/ 229,000	26,000	5/ 18,800	2,100	5/ 114,700		5/ 113,900	
South Dakota							150,000	(2)	(4)		(2)	(2)	(2)	(2)
Tennessee					175,000	(4)	200,000	(4)			33,000	(4)	73,000	(4)
Texas					3/5/8/ 282,000	10,200	3/ 800		3/5/ 52,300	3/8/ 27,500	3/8/ 1,630,700	3/8/ 388,000	3/5/ 51,900	(2)
Utah									(2)	(2)				
Vermont					5,000				3/ 1,000		5/ 15,000		500	
Virginia			5,000		8/ 75,000	8/ 2,500	1/8/ 375,000	1/8/ 45,000	1/3/8/ 125,000	1/3/8/ 250,000	1/3/5/8/ 115,500	1/5/8/ 140,000	1/3/5/8/ 5,000	(2)
Washington			6/ 200,000		70,000	100,000	1,500				1/3/5/8/ 250,000	1/3/5/8/ 25,000		
West Virginia					1/ 150,000		(2)						(2)	
Wisconsin							77,000		3/ 612,500	3/ 50,000			130,000	(4)
Wyoming			(2)		(4)	(4)	(4)	6/ 1,000,000						
Alaska														
Hawaii	500,000													
West Indies														
Total	3/ 536,500	(4)	1/3/6/ 1,354,300	(2)	1/3/5/6/7/8/10/ 14,487,100	3/8/10/ 6,162,700	1/3/5/6/8/ 4,741,600	1/3/6/8/ 1,175,000	1/3/5/8/9/ 6,584,100	1/3/8/ 788,600	1/3/5/7/8/ 3,524,200	1/3/5/8/ 1,771,600	1/3/5/7/8/ 3,019,100	1/3/5/8/ 253,000

See reference notes at end of table.

WINDSTORM LOSSES

Table 16 —Continued

(Windstorms other than tornadoes)

Year 1955

Section	August		September		October		November		December		Crop season April–Sept		Total		
	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property	Crops	Property and crops
New Hampshire	[3,7] $100,000										[3,7] $103,500		[3,7] $108,500		[3] $108,500
New Jersey	200,000	$15,000	$10,000		$125,000		$15,000		$10,000		265,000	$15,000	520,000	$15,000	535,000
New Mexico											(2)	(2)	(2)	(2)	(2)
New York	[1,3] 15,000,000	(2)			(2)	(2)	(2)				[1,3,5] 15,570,000	(2)	[1,3,5] 15,639,900	(2)	[1,3,5] 15,639,900
North Carolina	[1] 20,000,000	[1] 60,277,700	[1] 53,000,000	[1] $35,000,000			9,000				[1] 73,422,000	[1] 95,300,700	[1,10] 73,861,000	[1,10] 101,300,700	[1,10] 175,161,700
North Dakota	585,000	88,000	20,000	25,000							847,000	234,000	847,000	234,000	1,081,000
Ohio							50,000	(4)			175,000	[3] 1,000	725,000	[3] 1,000	[3] 726,000
Oklahoma	[3,5] 147,500	[3,5] 3,000	40,000	20,000							[1,3,5,6,8] 640,500	[1,3,5,8] 189,500	[1,3,5,6,7,8] 1,175,700	[1,3,5,8] 189,500	[1,3,5,6,8] 1,365,200
Oregon			[3] 3,000	[3] 390,000	(4)	[1] $1,500,000	50,000	(4)	[1,5] 2,520,000	[3] $50,000	[1,3,5] 23,000	[1,3,5] 398,500	[1,3,5] 2,843,000	[1,3,5] 1,948,500	[1,3,5] 4,791,500
Pennsylvania	[1,5] 68,210,500	[1] 1,000,000	[1,5] 100,000		[1,3] 100,000		[5] 30,000				[1,3,5,8] 68,620,000	[1] 1,000,000	[1,3,5,8] 71,750,000	[1] 1,000,000	[1,3,5,8] 72,750,000
Rhode Island	[3,7] 125,000										[3,5,7] 144,000	(2)	[3,5,7] 149,000	(2)	[3,5] 149,000
South Carolina	[5] 209,000										[5] 685,400	28,100	[5] 706,900	28,100	[5] 735,000
South Dakota	(2)	(2)	125,000	2,000			11,500				[3] 275,000	[3] 2,000	[3] 286,500	[3] 2,000	[3] 288,500
Tennessee	8,200	1,000			145,000	(4)	55,000	(4)			309,200	[3] 1,000	684,200	[3] 1,000	[3] 685,200
Texas	[3] 25,500	(2)	[3,5] 71,000	(2)	[8] 15,000	(2)					[3,5,8] 1,832,200	[3,8] 415,500	[3,5,8] 2,129,200	[3,8] 425,700	[3,5,8] 2,554,900
Utah											(2)	(2)	(2)	(2)	(2)
Vermont	[3,7] 25,000										[3,5,7] 41,500		[3,5,7] 46,500		[3,5] 46,500
Virginia	[7] 2,000,000		(4)	(2)	(4)						[1,3,5,7,8] 2,620,500	[1,3,5,8] 435,000	[1,3,5,7,8] 2,700,500	[1,3,5,8] 437,500	[1,3,5,8] 3,138,000
Washington					15,500	(4)	[3,7] 100,000		200,000		[1,3,5,8] 251,500	[1,3,5,8] 25,000	[1,3,5,6,7,8] 837,000	[1,3,5,8] 125,000	[1,3,5,6,8] 962,000
West Virginia	(2)	(2)			(2)						(2)	(2)	[1,3] 150,000	(2)	[1,3] 150,000
Wisconsin	(2)	(4)	(4)				[6] 125,000				[3] 819,500	[3] 50,000	[3,6] 944,500	[3] 50,000	[3,6] 994,500
Wyoming										5,000	(2)	[6] 1,000,000	(2)	[6] 1,005,000	[3,6] 1,005,000
Alaska	65,000				14,000		16,500		[1] 97,000		65,000		[1] 192,500		[1] 192,500
Hawaii									[1] 50,000	[1] 25,000			[1] 550,000	[1] 25,000	[1] 575,000
West Indies	83,000	1,072,600									83,000	1,072,600	83,000	1,072,600	1,155,600
Total	[1,3,5,7,8] 110,413,500	[1,3,5,8] 62,645,800	[1,3,5] 53,887,000	[1,3] 35,575,600	[1,3,5,8] 858,000	[1,3] 1,709,000	[1,3,5,6,7,8] 1,863,000	[3] 4,000	[1,3,5] 7,604,600	[1,3] 305,000	[1,3,5,6,7,8,9] 181,869,500	[1,3,5,6,8] 102,209,600	[1,3,5,6,7,8,9,10] 208,573,000	[1,3,5,6,8,10] 110,390,300	[1,3,5,6,8,9,10] 318,963,300

1. Includes damage from attendant heavy rain.
2. Losses occurred; amount not reported.
3. Additional losses occurred.
4. Damage reported as small.
5. Includes damage from lightning.
6. Includes damage from attendant heavy snow.
7. Included crop damage.
8. Includes damage from attendant hail.
9. Includes damage from attendant tornado.
10. Includes damage from cold wave.

WINDSTORM LOSSES PAST YEARS

Table 17

(Windstorms other than tornadoes)

Year	Total loss of life	Total property loss	Year	Total loss of life	Total property loss
1916	65	$11,712,100	1937	43	$6,292,900
1917	25	1,400,600	1938	630	315,435,400
1918	79	7,602,200	1939	60	3,988,100
1919	344	28,170,000	1940	251	25,588,900
1920	42	4,735,400	1941	43	15,523,300
1921	65	13,174,700	1942	68	32,691,600
1922	133	5,055,800	1943	61	25,056,500
1923	68	5,261,800	1944	448	207,745,900
1924	78	13,545,800	1945	85	36,498,700
1925	88	11,612,400	1946	70	29,515,200
1926	357	93,610,300	1947	117	135,377,500
1927	64	6,783,200	1948	52	59,169,900
1928	1,947	88,836,000	1949	102	69,476,600
1929	46	20,334,600	1950	210	134,798,800
1930	49	5,705,500	1951	289	86,296,600
1931	17	7,773,000	1952	137	78,484,000
1932	306	42,657,400	1953	118	151,958,400
1933	156	65,604,100	1954	292	786,173,400
1934	109	19,497,200	1955	301	318,963,300
1935	461	17,191,000			
1936	121	17,256,300	Total	7,997	

NORTH ATLANTIC HURRICANES AND TROPICAL DISTURBANCES

U. S. Weather Bureau - Miami, Florida

For the second consecutive year all records were broken for hurricane destruction. The total property damage is conservatively estimated at $1,135,500,000 of which $967,000,000 occurred in the United States. However, direct or indirect losses from hurricane Diane alone in the United States are estimated at more than one billion dollars. (A United Press tabulation on November 15, 1955, estimated hurricane damage in 1955 as $1,680,200,000 in the United States and $401,200,000 outside the United States, which adds up to a staggering total in excess of two billion dollars). Weather Bureau estimates for damage outside the United States were $90,000 in the Leeward Islands, $250,000 in Haiti and Santo Domingo, $50,000 in Cuba, $2,800,000 in Barbados and the Grenadines, and $5,000,000 in British Honduras. The centers of three hurricanes passed within 150 miles of Tampico within a period of 25 days, all attended by torrential rains. The resulting floods culminated in the greatest natural catastrophe in the history of Mexico, where total damage was probably in excess of $160,000,000.

A conservative estimate of hurricane casualties is 1,518, but probably many more than that number died in Mexico alone either directly or indirectly from the hurricane induced floods. The number 1,518 or more killed in and outside the United States is the greatest since 1942, when the Weather Bureau began recording this datum. In addition to the large number in Mexico the hurricane dead was 218 in the United States (mostly from the floods of Diane), 4 in Cuba, 38 in Barbados, 122 in the Grenadines, 25 in Carriacou, 7 in Hispaniola, and 300 in Yucatan.

There were 13 tropical storms in 1955, of which 10 attained hurricane force, a number exceeded only once before when 11 hurricanes were recorded in 1950. This compares with an average expectancy of about 10 tropical storms with 5 of hurricane intensity. There is some question whether Gladys was of full hurricane intensity, but she has been placed in that category since on one day two planes flew through the storm and both reported winds in excess of 75 m.p.h. Three hurricanes (Connie, Diane, and Ione) crossed the coastline of North Carolina within a period of 6 weeks. Two minor tropical storms (Brenda and an unnamed tropical storm) crossed the Gulf Coast near the mouth of the Mississippi River, and an offshoot from Gladys gave high winds and heavy rains in the Corpus Christi-Port O'Connor area resulting in some damage. None of the three hurricanes entering the U. S. were exceptionally severe from the standpoint of winds or tides, but the severe flooding from Diane made the principal contribution toward the record breaking damage for 1955 in the United States.

In contrast to 1954, no hurricanes crossed the coastline north of Cape Hatteras and no hurricane winds were reported north of that point. No tropical storm of hurricane intensity affected any portion of the United States coastline along the Gulf of Mexico and of Florida for the second consecutive year. Only one hurricane has affected the Florida Peninsula since 1950 and that was of little consequence. However, similar hurricane-free periods have occurred before.

The record-breaking floods of Diane have focussed attention on the fact that hurricane induced death and destruction is due to: 1), tide and wave action; 2), floods resulting from hurricane rains; and 3), hurricane winds -- and probably in this order. Serious floods from hurricane rains have occurred in the Rio Grande and southern Appalachian areas before, but they are much more common in Jamaica, Hispaniola, Puerto Rico, Central America, and Mexico. Thousands have died in these countries from hurricane floods in past years. It has taken Diane to bring this forcibly to our attention.

Hurricane Janet was one of the most severe Atlantic hurricanes of historical record. A barometer reading of 27.00 inches was reported at Chetumal, Mexico, and the wind was estimated at 200 m.p.h. or higher at Swan Island and Chetumal. The lowest reputable sea level land barometer readings of record in the world are:

			Inches
Lower Matecumbe Key, Fla.	Sept. 2	1935	26.35
Basilan, P. I.	Sept. 25,	1905	26.85
Cossack, Australia	Jan. 7,	1881	27.00
Chetumal, Mexico	Sept. 28,	1955	27.00

The following are individual reviews of all North Atlantic hurricanes and tropical disturbances that occurred during the 1955 season. All times are in Eastern Standard (G.C.T. minus 5 hours) unless otherwise indicated. A synopsis of the important features of these storms is given in Table 18a; their tracks are shown by a chart at the end of this bulletin.

ALICE - December 30 - January 5. --The hurricane season of 1955 started promptly with a hurricane on the weather chart northeast of the Leeward Islands on January 1. According to the hurricane forecast center at San Juan the perturbation which eventually developed into hurricane Alice was formed initially under extratropical influences. The frontal system which led to its formation moved off the east coast of the United States, passed Burmuda on December 25, 1954, and reached a position at about Long. 50°W. on the 26th. At this time an extended polar trough, as described by Riehl (1), formed in the easterlies and moved eastward during the 26th and 27th associated with the trough and front farther north. By December 28, the low level wind flow indicated an extended trough oriented NNE-SSW with the tropical extension centered near Long. 48°W.

Meanwhile the following anticyclone had drifted into the area to the north of Bermuda and had become a huge E-W oriented HIGH covering the entire western Atlantic, very similar in strength and extent to the summertime Azores-Bermuda anticyclone. The easterly flow deepened south of this warm HIGH and on December 28 fracture occurred in the polar trough. While the polar end of the trough moved eastward, the southern extension moved westward under the influence of the deeper easterlies and a closed circulation began to form. The tropical disturbance continued west-southwestward on December 30 and 31, acquiring tropical characteristics and gradually intensifying, reaching hurricane intensity on January 1. The first definite report of this development was from the SS ARAWAK at 2:15 p.m., e.s.t., in latitude 19.2°N. and longitude 59.2°W. with "Wind west, force 12, barometer 987 mbs., temperature 66, visibility nil."

Hurricane Alice entered the Caribbean Sea on January 2 with the center passing just south of the island of St. Barthelemy between 10:00 a.m., and 1:00 p.m., e.s.t. It affected the islands of Anguilla, St. Martin, St. Barthelemy, St. Kitts, St. Eustatius, Nevis, Barbuda, and Saba. Estimated winds of 65 knots were reported at the airport on the island of St. Kitts, and the last observations from St. Barthelemy indicated 60 to 70 knots. Hurricane winds were observed in other places. After January 3 the storm decreased rapidly in intensity and on the 6th dissipated in the extreme southeastern Caribbean, one of the very rare instances of a hurricane dissipating in the Caribbean Sea.

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(1) Tropical Meteorology, Chap. X, Herbert Riehl, McGraw-Hill Book Co., 1954.

Around the island of Anguilla four schooners, eleven sloops, and one boat were destroyed or badly damaged. On the island the courthouse was destroyed with considerable loss of records; four private homes and most of the crops were destroyed or damaged. In St. Martin two schooners and one sloop were lost, one boat badly damaged, the schoolhouse unroofed, and crop losses were considerable. Heavy rains caused numerous landslides on the island of Saba, destroying concrete roads and resulting in other damage. Two schooners were destroyed. On St. Kitts the rainfall averaged 7 inches, causing floods and considerable damage to streets and sugar fields. Five open lighters were lost and two sloops destroyed.

Puerto Rico and the Virgin Islands felt little effect from the storm. The rainfall was beneficial in Puerto Rico, alleviating a dry period which had persisted since the middle of October. Maximum gusts up to 45 knots were reported in the Virgin Islands and up to 40 knots in eastern Puerto Rico.

This is the first hurricane definitely recorded in January. A winter hurricane of somewhat similar origin however, passed through the Leewards Islands on March 8, 1908, with Basseterre, St. Kitts, reporting a minimum pressure of 29.28 inches. Legends on some of the islands mention a winter storm that affected the region many years ago, but no definite information is available. Occasional winter hurricanes are reported in the Pacific Ocean and tropical lows are more rarely observed in the Atlantic, but it is most unusual for one of the latter to reach full hurricane intensity during the winter months.

BRENDA - July 31 - August 2. --A tropical storm formed on July 31 over the north-central Gulf of Mexico in a complex low pressure area which had drifted south and west from the southeastern United States during the preceding 2 days. The storm moved north-northwestward until it reached the coast near the Louisiana-Mississippi border on the afternoon of August 1. The CAA radar at Moisant Airport in New Orleans picked up the eye of the storm shortly after it moved inland. About this time the storm turned toward the west-northwest continuing on this course into northeast Texas, where it dissipated on August 3.

The lowest pressure of 998 millibars was reported by plane at 9:27 a.m., e.s.t., August 1. Highest winds were 50 m.p.h., estimated, at Shell Beach on the south side of Lake Borgne and 44 m.p.h. at Ft. Morgan, Ala. Damage was confined to small piers along the Mississippi coast and to highways along the Alabama, Mississippi, and Louisiana coasts. Heavy rain caused some damage to crops, but total damage was small. Two lives were lost in automobile wrecks directly attributable to the storm in the Mobile area.

Locally heavy rains occurred from extreme northwest Florida west-northwestward through most of Louisiana. The following amounts were recorded: New Orleans City Office 4.57; Mobile 4.44; Shreveport 4.94; Lake Charles 4.52; and Pensacola 5.84 inches. Tides were 5 to 6 feet above normal at Shell Beach and 4.1 feet above normal at the head of Mobile Bay.

CONNIE - August 3-14. --Ship reports on August 3 indicated a disturbed area in the Atlantic near longitude 45°W. The SS BONAIRE sent in a report of 40-knot winds that night and the first advisory issued by San Juan located the tropical storm Connie at latitude 16.6°N. and longitude 48.0°W. Connie was definitely not of hurricane intensity at this time and the irregular Cape Verde reports provide no evidence of any unstable wave passing through that area which might later have spawned this storm. Connie, intensifying gradually, became a full hurricane by the morning of the 4th. The hurricane moved on a west-northwest course until the 6th when it started a slow curve toward the Carolina coast. By the 8th the rate of forward movement had begun to decrease and during the 10th and most of the 11th the storm moved slowly and erratically. Late on the 11th Connie turned northward and crossed the coast near Cape Lookout about 8:30 a.m., e.s.t., August 12.

Connie continued on a northward track up Chesapeake Bay and then turned northwestward, dissipating over Lake Huron on the 14th.

Reconnaissance crews estimated the maximum winds in hurricane Connie as high as 145 m.p.h. on August 6 and 7 north and northwest of Puerto Rico, with lowest pressure 27.88 inches, but intensity had decreased considerably by the time it reached the coastline. The fastest measured mile at any coastal reporting station was 72 m.p.h. at Wilmington with peak gusts 83 m.p.h. Winds of 75 m.p.h. or higher were reported at Ft. Macon, N. C., with gusts of 100. As Connie passed to the north of the Virgin Islands peak gusts of 104 m.p.h. were reported at Tortola and 81 m.p.h. at St. Thomas.

While hurricane Connie was still some distance off the coast, tornadoes were reported in the Carolinas early in the evening of August 10; five occurred in South Carolina from Georgetown northward and one at Penderlea in North Carolina. These tornadoes are said to have moved from east to west. Total damage is estimated at $46,065,000; $90,000 in South Carolina, $40,000,000 in North Carolina, $1,000,000 in Virginia, $4,000,000 in Maryland, $200,000 in New Jersey and $775,000 in Massachusetts. Rainfall was heavy from North Carolina to New England, with amounts varying from about 6 inches at many stations up to the 12.20 inches which fell in a 38-hour period at LaGuardia Field in New York on August 12-13. Amounts in excess of 9 inches were measured in eastern Pennsylvania and central New Jersey. Although this rain did not cause excessive damage, it did saturate the ground, fill the streams, and in general set the stage for the devastating floods which followed the passage of hurricane Diane a few days later. About 25 persons were killed in hurricane Connie, 16 in the capsizing of a small boat in Chesapeake Bay.

DIANE - August 7-21. --An easterly wave had been followed for several days, but the first conclusive evidence of a tropical storm was observed on August 10. Ships on that date indicated winds of 30 to 40 knots and abnormal shower activity. The storm reached hurricane intensity on the night of the 12th. During the 11th and 12th the storm turned toward the northeast, possibly under the influence of hurricane Connie, and then began a slow turn toward the northwest and the North Carolina coast. Diane moved inland across the Carolina Beach which is located on the coast near Wilmington, N. C., about 6:00 a.m., e.s.t., August 17.

Highest winds were estimated at about 125 m.p.h. while Diane was still at sea with lowest pressure 29.12 inches. The hurricane lost force as it approached the coast and the highest wind reported from any weather station in North Carolina was 50 m.p.h. at Hatteras, and gust of 74 m.p.h. at Wilmington. It is probable that winds of just about hurricane intensity were experienced at a few exposed points on the coast between Cape Hatteras and Cape Fear. The center passed near the Raleigh-Durham Airport during the middle of the afternoon of the 17th and on into Virginia to a position near Lynchburg shortly before midnight. From this point, it moved on a north to north-northeast course during the night and then turned gradually to an almost easterly course on August 18, passing very near Philadelphia, Pa., Atlantic City, N. J., and Nantucket, Mass., on the 18th and 19th. Winds had decreased to 30 to 35 m.p.h. with occasional gusts to 40 m.p.h. by the time the storm reached Lynchburg and no strong winds were reported after the storm left Virginia.

Damage was comparatively moderate from wind, tidal action, and flooding in the Carolinas and Virginia; South Carolina reporting damage at only $88,000, North Carolina $40,278,000, and Virginia $1,500,000. Long after Diane had become a minor disturbance from the standpoint of wind, record-breaking rainfall developed, followed by extensive floods. The sections worst hit were Pennsylvania, Massachusetts, Rhode Island, Connecticut, and Southeastern New York. Within the week preceding the torrential rains from Diane, its predecessor, hurricane Connie, had produced rains ranging from 4 to 6 inches or more along the Atlantic Coast slope from North Carolina to southern New England, but due to the previous long dry spell only a few small local floods resulted. However these rains left the ground well soaked and streams were at relatively high levels when the rains from Diane began to overspread the area on the 17th.

By the morning of the 17th, as Diane crossed the coastline, rains of 1 to 3 inches had spread across eastern North Carolina into southeastern Virginia. As the center of the storm moved across North Carolina into central Virginia in a north to north-northwest direction, rains reached out to the north and northeast to a distance of about 250 miles ahead of the storm. Rains became heavy in central Virginia on the evening of the 17th. Amounts up to 10 inches or more occurred in a 24-hour period along the southern and eastern slopes of the Blue Ridge Mountains.

The storm continued moving in a northerly direction until it reached the Mason-Dixon line during the afternoon of the 18th, where it turned sharply to an easterly direction. This brought the heavy rain area directly in focus over the eastern Pennsylvania, New York, New Jersey, and southern New England areas. Rainfall rates were intensified by orographic effects, as the moist air currents were forced upward over mountain slopes.

The rains in southern New England were prolonged as the storm center which was moving eastward directly along the 40° parallel for about 12 hours from 5 p.m. of the 18th to about 5 a.m. of the 19th, recurved to an east-northeast direction paralleling the southern New England coast. At the Weather Bureau Office, Bradley Field, Windsor Locks, Conn., the intensities of precipitation fluctuated considerably until about 9 p.m. on the 18th, but from then to 10 a.m. on the 19th the rate was fairly constant, averaging nearly 0.69 inch per hour for 13 hours. The greatest amount from this record in a 24-hour period, 12.05 inches, is from 10 a.m. August 18 to 9 a.m. August 19. This compares with the previous maximum 24-hour rainfall of record at Hartford, Conn., of 6.82 inches which occurred on July 13, 1897. The precipitation record at Hartford extends back 90 years.

The excessive rains of hurricane DIANE fell on many of the same localities previously drenched by rains associated with hurricane CONNIE, and combined they produce the most devastating floods the valleys of eastern Pennsylvania, northwestern New Jersey, southeastern New York, and southern New England have ever experienced. In the vicinity of Stroudsburg, Pa., 75 persons lost their lives when rapidly rising water of Broadhead Creek swept away a summer camp. The floods in Virginia and portions of North Carolina and West Virginia were damaging in some localities, but less severe than those in the Northeastern States. A report of the floods associated with CONNIE and DIANE can be found in the August 1955 issue of Climatological Data - National Summary.

Damage has been estimated at $831,706,000 of which $677,000,000 occurred in New England. In the other states the damage was $100,000 in Maryland; $21,000,000 in New Jersey, $15,000,000 in New York, and $76,740,000 in Pennsylvania. These figures are admittedly incomplete, and direct plus indirect damage would indicate that Diane earned her title of "Billion Dollar Hurricane". Approximately 184 persons lost their lives in this storm, all in floods.

EDITH - August 21 - September 3. --Hurricane Edith reached hurricane intensity on August 24 in an easterly wave which passed through the Cape Verdes on the 18th. The storm moved on a smooth parabolic curve passing well to the east of Bermuda on the 29th. Highest winds reported by reconnaissance were 90 m.p.h. on the 28th and 29th, and the lowest central pressure in the center was 29.26 inches measured by dropsonde in the eye on the same dates. Edith had diminished and picked up characteristics of an extratropical storm by the time it reached latitude 40°N. and longitude 53°W. on the morning of August 31.

TROPICAL STORM - August 23-29 in the Gulf of Mexico.--A weak circulation was observed near Grand Cayman on August 23. It gained intensity very slowly as it moved on a northwest course but deepened a little more rapidly as it approached the mouth of the Mississippi River, passing between the New Orleans Airport and the Naval Air Station about 2:00 a.m., e.s.t., August 27. It continued northwestward into northeastern Texas and was last recognizable late on August 29 in the vicinity of St. Louis, Mo. The highest wind was 40 to 50 m.p.h. with lowest pressure 29.54 inches. Only minor damage was reported.

FLORA - September 2-9. --An unstable easterly wave passed through the Cape Verde Islands during August 30-31. A message was received on the 30th from Panare Du Brazil: "Tropical storm evident. Cyclonic circulation aloft to 4,000 meters. Center approximately 11°N., 21°W. Displacement 18 m.p.h. WNW. Storm associated with easterly wave along ITC." This weak circulation was the genesis of Flora which reached hurricane intensity on September 3 in approximately latitude 21°N. and longitude 40°W.

Hurricane Flora moved on a smooth parabolic path northward through the middle Atlantic, passing some 9° east of Bermuda late on the 6th and early on the 7th. The highest wind reported was 104 m.p.h. at 12:30 a.m., e.s.t., on the 8th at latitude 41.0°N. and longitude 49.4°W. with central pressure of 28.70 inches. Lowest reported pressure during the storm's history was 28.55 inches at 31.5°N. and 55.3°W. on September 6.

GLADYS - September 4-7. --Gladys formed in the Gulf of Campeche on September 4 and moved first northwestward to a point approximately 150 miles south-southeast of Brownsville and later turned southwestward crossing the coastline north of Tampico and then moved southward just inside the coast. The highest wind reported from Tampico was 48 m.p.h. from the northwest, but higher winds undoubtedly occurred along the coast to the north of Tampico. The lowest pressure reported by reconnaissance was 29.44 inches with maximum winds of 81 m.p.h. Winds of about the same velocity were reported by a civilian plane on the same date. On the basis of these reports Gladys has been classified as a hurricane. A fairly reliable source reported 25 inches of rain during a 3 day period at Tampico, beginning the sequence of hurricane-associated rains which culminated in the Tampico disaster. Meager reports indicate some deaths and damage from Gladys on the Mexican Coast. Tides in the Boca Jesus Maria area (south of Brownsville along the coast of Mexico) were estimated at 3 to 5 feet above normal. Tides were 2 feet above normal at Port Isabel, Texas.

At the time Gladys reached her northernmost position, an area of heavy squalls developed off the middle Texas coast on September 5, moving inland on the 6th. Highest winds were 45 m.p.h. in the Corpus Christi-Port O'Conner area and an oil rig, 15 miles east of Port Aransas, reported winds of 55 to 65 m.p.h., probably gusts. The Naval Air Station at Corpus Christi received 17.02 inches of rain, 12.23 inches in 24 hours. Highest tide reported was 4.5 feet in Corpus Christi Bay and tides were 1 to 3 feet above normal all along the upper Texas coast.

Damage was estimated at $500,000 in the Corpus Christi area, principally to streets, beach installations, piers, and small craft. Flooding occurred in the Falfurrias, Riviera, and Ramonville areas, but no estimates of damage are available. Radar observations briefly indicated the presence of a separate cyclonic circulation but otherwise this seems to have been merely an unorganized squally area of tropical origin.

HILDA - September 10-19. --Hilda formed in an easterly wave and reached hurricane intensity at latitude 20.0°N. and longitude 69.1°W. the morning of September 12. It remained small with a very narrow ring of strong winds around the eye for several days. It passed along the southeastern tip of Cuba killing about 4 people and causing about $50,000 damage, losing some intensity while passing over the rough terrain in this area. By 5:30 p.m., e.s.t., on the 15th in northwestern Caribbean, the central pressure had dropped to 28.44 inches. On the 16th Hilda crossed the Yucatan Peninsula midway between Chetumal and Cozumel, an area very sparsely populated. Damage and any casualties in this area are unknown.

The hurricane lost some strength crossing the Yucatan Peninsula, but attained its greatest intensity in the Gulf of Campeche. The center moved inland early on September 19 at Tampico, which had a relative calm for about 45 minutes. The lowest pressure at Tampico was 28.11 inches. The highest wind recorded was 105 m.p.h. when the anemometer blew away and the maximum wind was estimated at 150 m.p.h.

After moving inland the storm took a slight turn to the south of west, passing to the south of Villa Tamuin. This seems to happen rather often along the Mexican Coast. According to the hurricane forecast staff at New Orleans, it appears likely that the funneling effect caused by nearby mountain ranges creates higher northerly winds than are present while the hurricane is at sea, thus causing the turn. The upper air data indicate that the remnants of the hurricane continued westward across Mexico.

Floods in the Tampico area were responsible for most of the casualties. Newspapers report 300 deaths and estimate damage at $120,000,000 with all crops destroyed in the 75 mile wide swath the hurricane cut for about 150 miles inland to the west of Tampico.

No information is available on the highest tides. Beaches were awash from Corpus Christi southward.

IONE - September 10-23. --Ione developed in an easterly wave which passed through the Cape Verdes on September 6, but the circulation was still quite weak on the 10th. Ione began to develop on this date and reached hurricane intensity during the night of September 14-15 in about latitude 19.5°N. and longitude 62.2°W. Ione then pursued a general northwesterly course toward the North Carolina coast reaching its greatest intensity on the 17th with a central pressure of 27.70 inches and maximum winds of 125 m.p.h. By the time it crossed the North Carolina coastline on the 19th, the central pressure had filled to about 28.35 inches and the maximum winds had decreased slightly.

Ione was the third hurricane to pass through eastern North Carolina within 6 weeks and the fourth within 11 months. Not within the known meteorological history of this section have so many hurricanes affected the area within so short a period. Total storm damage in eastern North Carolina, mostly to crops, is estimated at $88,035,000. There were 7 fatalities.

As Ione crossed the coastline in the vicinity of Morehead City, hurricane associated rains continued for a long period. Most of the damage caused by hurricane Ione was by flooding of crops. According to the State Climatologist at Raleigh, between August 10 and the approach of Ione, eastern North Carolina had been repeatedly drenched with heavy rains with more than 30 inches falling in the wettest sections. The some 16 inches which fell in the same areas with the passage of Ione brought 45-day precipitation totals to values without precedent in the weather history of North Carolina. In the 42-day period August 11 to September 20 the cooperative substation at Maysville reported a rainfall of 48.90 inches. This unprecedented rainfall, approximately one-third of it falling in about 30 hours with hurricane Ione, produced the heaviest runoff of record on downstream tributaries and coastal creeks in North Carolina. The combination of tide waters from the east and flood water from the west inundated the greatest area of eastern North Carolina ever known to have flooded. In New Bern, the depth of water which, according to press reports, was 16 feet above normal, was the greatest of record.

JANET - September 21-29. --Pilot reports from

AIR FRANCE and IBERIA early on September 21 indicated the presence of a weak tropical disturbance in about latitude 13.5°N. and longitude 53.0°W. Janet was just attaining hurricane intensity when encountered by the SS MORMACDALE in latitude 13.6°N. and longitude 55.2°W. at 7:00 p.m., e.s.t., on the 21st when it reported winds of 63 m.p.h.

The hurricane center passed just south of the island of Barbados shortly after 11:00 a.m., e.s.t., on the 22d with a very narrow ring of hurricane winds around an eye 20 miles in diameter. Maximum winds of 110 to 120 m.p.h. were reported on the south side of the eye, dropping off very rapidly within 20 miles. The lowest pressure reported on the island was 29.20 inches and 28.91 inches was reported in the eye immediately to the south of the island by the reconnaissance plane. This was the first hurricane in Barbados in 57 years. Fatalities in Barbados were 38 and in the Grenadines 122. Property damage was around $2,800,000.

During the next several days Janet pursued a westward course through the eastern Caribbean with some decrease in intensity. However on September 25 Janet began a rapid intensification and during the forenoon of the 26th the Navy reconnaissance plane, commanded by Lt. Cdr. Windham, with a crew of 9 and 2 newspapermen were lost. Janet had become a very severe hurricane.

The Navy reconnaissance plane at 10:40 a.m., e.s.t., on September 27 reported the center at latitude 16.9°N. and longitude 82.7°W. with central pressure 27.70 inches and maximum winds in excess of 115 m.p.h. "by a large and incalculable amount". The center of Janet passed over Swan Island during the early afternoon with winds estimated at 200 m.p.h., leveling all buildings on the island but one.

The center of the hurricane reached Corozal, British Honduras, and Chetumal, Mexico, about 1:00 a.m., e.s.t., on September 28. It was still a very concentrated storm with winds reaching hurricane force only about 2 hours before the arrival of the eye. In Corozal the barometer read 29.34 inches at 11:00 p.m., e.s.t., and 27.10 inches at 1:10 a.m., e.s.t., falling 2.24 inches in 2 hours and 10 minutes with most of the fall occurring in the last hour and 40 minutes. Barometer readings of 27.10 inches and 27.05 inches (aneroid) were made in Corozal. In Chetumal the radio operator of the Mexican Aviation Company took a mercurial barometer reading of 27.17 inches before the eye arrived and an aneroid reading of 27.00 was made during the passage of the eye.

Since Corozal was in the southern edge of the eye and since the eye passed directly over Chetumal the readings are quite consistent and it is believed the minimum barometer reading of 27.00 inches can be accepted. Thus Janet can be included among the most intense tropical storms in history. The anemometer at the airport terminal building at Chetumal registered 152 knots or 175 m.p.h. before it collapsed. The wind continued to increase and is estimated at in excess of 200 m.p.h.

In British Honduras, Corozal was virtually leveled, 16 persons were killed, and total damage estimated at about $5,000,000. In Chetumal, a town of about 2,500 people, only 4 badly battered buildings were left standing. Sea water reached a height of 6 1/2 feet some 1,600 feet inland. The Corozal-Chetumal area is well protected from the Caribbean Sea by a sizeable peninsula, but there was one report in Belize newspaper of a hurricane wave south of Corozal. In Chetumal approximately 120 bodies were found in and about the ruins but the sea dragged away an unknown number. Altogether, in the Mexican State of Quintana Roo, the death toll is estimated at about 500 with $40,000,000 damage.

Hurricane Janet regained some of its intensity upon passing into the Gulf of Campeche. It moved inland between Vera Cruz and Nautla in a sparsely settled section of Mexico. The circulation aloft continued its westward movement across Mexico and a squally disturbed area developed off the west coast of Mexico under this circulation late on the 1st of October.

Floods were already occurring in the Tampico area from the rains of hurricane Gladys and Hilda when the torrential rains (16 inches) of this hurricane were added. These floods culminated in probably the greatest national disaster ever to occur in Mexico. Reports of casualties and damage are too indefinite to estimate.

Tides were 3 to 4 feet above normal along the coast of Mexico for 100 miles south of Brownsville and probably much higher further to the southward. Beach roads on Padre and Mustang Islands in the Corpus Christi area were blocked. Nautla reported 70 m.p.h. winds when the station was abandoned because of rising water.

THE TROPICAL STORM OF OCTOBER 10-13. --A small vortex apparently developed in an easterly wave which passed through the Cape Verde Islands on October 4. The storm was first reported by two ships on October 10th at approximately latitude 28.5°N. and longitude 42.8°W. The storm recurved to the northeast on the 11th and merged with an extratropical storm on the 14th. The new extratropical storm was quite severe with one ship reporting 28.91 inches. The lowest reported pressure in the tropical storm was 29.53 inches with highest winds about 55 m.p.h.

KATIE - October 14-19. --Hurricane Katie probably developed from a wave on the ITC in the vicinity of Panama. The first definite evidence of development was given by a report from the Dutch motor vessel POSEIDON at 7:00 a.m., e.s.t., on October 16 when it encountered a west-northwest wind of 57 m.p.h. and a pressure of 29.57 inches at latitude 14.9°N. and longitude 74.1°W. A Navy reconnaissance flight during the afternoon indicated rapid intensification into a small but dangerous hurricane with winds of 115 m.p.h. near the center and lowest pressure of 29.06 inches.

The hurricane moved north-northeastward at about 15 m.p.h. and struck the coast of Hispaniola near the Hati-Dominican Republic border about midnight. It continued on a north-northeastward course, weakening rapidly as it crossed the high mountains and apparently entered the Atlantic near Puerto Plata, D.R., in the late morning or early afternoon of the 17th. The actual path across northern Hispaniola is uncertain, as the storm center became completely disorganized in crossing the mountains. However, the storm reformed in the Atlantic during the afternoon and reconnaissance aircraft found winds of 73 m.p.h. near the center about 125 miles north-northeast of Puerto Plata. However, the storm shortly reached an area containing the remnants of an old cold front and again lost intensity. The vortex was probably last encountered by the SS AMSTERDAM at 1:30 a.m., e.s.t., on October 20 in latitude 37.3°N. and longitude 56.4°W. The area in Hispaniola where Katie crossed the coastline is thinly populated but the Haitian border village of Anse-a-Pitre (population 800) suffered heavily. In the Dominican Republic, the border town of Pedernales bore the brunt of the hurricane; 68 homes were destroyed by hurricane winds estimated at 115 m.p.h., but no deaths were reported. At Cabo Rojo, 10 miles southeast of Pedernales, damages to the Alcoa docks under construction were estimated at $100,000 to $150,000. Hurricane winds extended as far east as Neiba Bay, including the city of Barahona, where heavy damage to livestock and crops was suffered. High winds, heavy rains, and floods destroyed the coffee crop and heavily damaged roads and bridges. On the basis of incomplete reports total damage is estimated at between $200,000 and $300,000 with 7 fatalities.

TROPICAL STORM DATA

Table 18 — for storm of — August 3-14, 1955 (CONNIE)

Station	Date	Pressure		Wind						Rainfall	Miscellaneous
		Low	Time	5-min. max.	Time	Fastest mile	Time	Gusts	Time		
Tortola, V. I.	6	-----	--------	---------	---------	---------	--------	104	----	-----	
St. Thomas, V. I.	6	-----	--------	---------	---------	---------	--------	81	----	-----	
San Juan, P.R. Isle Verde Airport	6	-----	--------	---------	---------	---------	--------	46	----	5.09	
Columbia, S.C.	11	29.56	on 12th	---------	---------	28 NNE	2:30 p.m.	48NNE	2:30 p.m.	.24	
Charleston, S. C.	11	29.73	--------	---------	---------	48 NNW	--------	65NNW	----	1.31	Tide 1 1/2 - 2 feet above normal
Myrtle Beach, S. C.	11	29.27	on 12th	---------	---------	20 NNE	12:30 p.m.	45NNE	----	-----	Tide about 4 feet above normal
Wilmington, N. C.	11	29.10	--------	---------	---------	72 NE	--------	85	----	3.60	
Fort Macon, N. C.	12	28.40	8-9 a.m.	---------	---------	75 or over NE to ENE	8-9 a.m.	100NE to ENE	8-9 a.m.	-----	
Cherry Point, N. C.	12	-----	--------	---------	---------	---------	--------	75	9:30 a.m.	-----	
Oceana, Va.	12	28.67	9:20 p.m.	---------	---------	---------	--------	-----	----	-----	
Norfolk, Va.	12	28.78	9:45 p.m.	---------	---------	47 NE	5:30 a.m.	52E	4:30 a.m.	4.62	Tide 4.8 feet above normal at 10:30 p.m.
Cape Henry, Va.	12	-----	--------	---------	---------	65 E	9:03 a.m.	-----	----	-----	Tide 4 feet above normal
Richmond, Va.	12	29.17	1:30 a.m. on 13th	---------	---------	34 N	5:32 p.m.	47N	5:25 p.m.	8.85	
Washington, D.C. Airport	12	29.06	6:15 a.m. on 13th	40 NE	6:03 p.m.	49 NE	6:03 p.m.	58NE	4:22 p.m.	6.59	
Baltimore, Md.	13	29.04	6:27 a.m.	---------	---------	54 S	7:10 a.m.	58ESE	6:25 a.m.	8.50	Tide 7 feet above normal at Fort McHenry
Wilmington, Del.	13	-----	---------	---------	---------	40	--------	54	9:25 a.m.	-----	
Atlantic City, N.J.	13	-----	---------	---------	---------	61 S	8:18 a.m.	65S	8:18 a.m.	-----	
Newark, N.J.	13	29.60	---------	---------	---------	46 E	--------	63E	-----	5.81	
Trenton, N.J.	13	29.59	6:00 a.m.	---------	---------	40 E	4:45 a.m.	-----	-----	6.20	
New York, N.Y.	12-14	-----	---------	---------	---------	---------	--------	-----	-----	12.35	

TROPICAL STORM DATA

Table 18—Continued for storm of August 7-21, 1955 (DIANE)

Station	Date	Pressure		Wind						Rainfall	Miscellaneous
		Low	Time	5-min. max.	Time	Fastest mile	Time	Gusts	Time		
Charleston, S.C.	16	29.53	--------	---------	---------	24 NW	---------	32	-----	0.09	Tide 1 1/2-2 feet above normal
Columbia, S.C.	16	29.63	on 17th	---------	---------	28 NE	---------	40	-----	1.00	
Myrtle Beach, S.C.	17	29.27	--------	---------	---------	20 NNW	---------	45E	-----	-----	
Wilmington, N.C.	17	29.12	10:30 a.m.	---------	---------	--------	---------	74NE	2:49 a.m.	3.89	Tide 5.7 feet above normal
Raleigh, N.C.	17	29.22	3:45 p.m.	---------	---------	28 ENE	8:03 a.m.	56ENE	-----	5.40	
Hatteras, N.C.	17	29.64	8:30 a. m.	---------	---------	50 E	7:57 a.m.	60E	8:20 a.m.	3.27	
Elizabeth City, N.C.	17	29.64	3:35 p.m.	---------	---------	---------	---------	69	12:30 p.m.	1.47	
Cape Henry, Va.	17	29.69	5:30 p.m.	---------	---------	43 SE	12:50 p.m.	49SE	12:50 p.m.		
Norfolk, Va.	17	29.68	5:30 p.m.	---------	---------	42 E	2:49 p.m.	53ESE	12:25 p.m.	.47	Tide 1.5 feet above normal
Roanoke, Va.	17	29.56	11:28 p.m.	---------	---------	--------	---------	62NNE	3:45 p.m.	2.04	
Richmond, Va.	17	29.64	6:30 p.m.	---------	---------	34 NE	1:09 p.m.	40SSE	6:04 a.m. 18th	4.26	
Lynchburg, Va.	17	29.53	12:45 a.m. 18th	---------	---------	36 N	2:13 p.m.	56N	2:15 p.m.	2.68	
Washington, D.C.	18	29.60	4:26 p.m.	29 SE	6:47 a.m.	33 SE	6:47 a.m.	40E	6:32 a.m.	1.48	
Baltimore, Md.	18	29.66	7:25 p.m.	---------	---------	36 SE	9:14 a.m.	40SSE	8:42 a.m.	2.67	Tide 5.1 feet above normal
Atlantic City, N.J.	18	29.61	3:00 a.m. 19th	---------	---------	49 SW	4:07 p.m.	-----	-----	.26	
Trenton, N. J.	19	-----	--------	---------	---------	29 NW	5:21 a.m.	-----	-----	2.74	
New York, N.Y.	19	-----	--------	---------	---------	59 NW	10:09 a.m.	64	10:13 a.m.		

TROPICAL STORM DATA

Table 18—Continued for storm of September 10-23, 1955 (IONE)

Station	Date	Pressure		Wind						Rainfall	Miscellaneous
		Low	Time	5-min max	Time	Fastest mile	Time	Gusts	Time		
Jacksonville, Fla. WBAS	16	-----	---------	--------	---------	37 NE	--------	-----	-----	-----	
Savannah, Ga., WBAS	17	-----	---------	--------	---------	22 NE	1:34p.m.	-----	-----	-----	
Myrtle Beach, S.C., WBAS	18	29.50	on 19th	--------	---------	23 NW	3:30a.m.	52NW	3:30 a.m.	3.86	
Columbia, S.C., WBAS	18-19	29.71 19th	---------	--------	---------	18 NNE	18th	-----	-----	-----	
Florence, S.C., WBAS	18-19	29.65 19th	---------	--------	---------	17 NNW 18th	---------	-----	-----	1.57	
Wilmington, N. C.	18-19	29.14	5:30 a.m. 19th	45 NW	---------	66 NW	5:12a.m. 19th	92N	12:16 a.m.& 7:30 a.m.	8.39	
Maysville, N. C.	19	-----	---------	--------	---------	---------	---------	-----	-----	16.63	
Morehead City, N. C.	19	28.35*	---------	--------	---------	---------	---------	-----	-----	10.90	Tides 7 to 10 feet above MLW
Beaufort, N. C.	19	28.30* *	--------	--------	---------	---------	---------	-----	-----	-----	
New Bern, N. C.	18-19	28.59	11:33a.m. 19th	--------	---------	60 NE	7:34a.m. 19th	90NE	7:34 a.m.	13.04	Tide 10 feet above normal
Elizabeth City, N. C.	19	28.89	11:30p.m.	--------	---------	---------	---------	60E	10:34 a.m.	7.82	Tide 4 feet above normal
Cherry Point, N. C.	19	28.42	6:30a.m.	--------	---------	---------	---------	107NNE	5:34 a.m.	7.88	Highest sustained wind 75 m.p.h. 5:20-5:40 a.m. 19th. Highest hourly average wind speed 63 m.p.h. ending 6 a.m. 19th. Center of storm passed 15 miles southwest of station.
Hatteras, N. C., WBO	19	29.11	4:20p.m.	--------	---------	68 SE	6:25a.m.	81ESE	6:22 a.m.	6.15	Tide 3 feet above normal on 19th at all stations from Oregon Inlet to Ocracoke.
Raleigh, N. C., WBAS	19	29.43	2:10p.m.	--------	---------	30 NW	2:01p.m.	52NNW	2:01 p.m.	.86	
Rocky Mount, N. C.	19	29.21	4:34p.m.	--------	---------	---------	---------	64NNE	9:15 a.m.	5.02	
Belhaven, N. C.	19	28.58	4:00p.m.	--------	---------	---------	---------	-----	-----	-----	Tide 6 feet above mean low water.
Cape Henry, Va., WBO	19	29.10	2:30a.m.	--------	---------	56 E	4:04p.m.	-----	-----	3.74	
Norfolk, Va., WBAS	19-20	29.13	1:30a.m. 20th	--------	---------	47 NE	11:13a.m. 19th	58ENE	7:30 p.m. 19th	3.53	Tide 5.8 feet above MLW.
Richmond, Va., WBAS	19-20	29.40	1:30a.m. 20th	--------	---------	30 NE 30 NW	4:33p.m. 19th 4:02a.m. 20th	42NNE	9:50 a.m. 19th	3.83	
Roanoke, Va., WBAS	19	29.64	1:28a.m. 20th	--------	---------	---------	---------	48N	8:08 p.m.	-----	
Washington, D. C., WBAS	19-20	29.53	3:30a.m. 20th	--------	---------	31 NE	12:09p.m. 19th	38N	3:47 a.m. 20th	.19	
Baltimore, Md., WBAS	--	-----	---------	--------	---------	30 NW	---------	-----	-----	-----	
Patuxent River, Md., NAS	20	-----	---------	--------	---------	47 N	6:03a.m.	59N	7:05 a.m.		
Chincoteague, Md., NAS	19	-----	---------	--------	---------	46 ENE	11:41p.m.	47ENE	11:41 p.m.		
Atlantic City, N. J., NAS	20	-----	---------	--------	---------	32 N	1:31p.m.	38N	1:22 p.m.		
Philadelphia, Pa., WBO	20	-----	---------	--------	---------	27 N	2:59p.m.	26N	12:27 p.m.		
New York, N. Y., WBO	20	-----	---------	--------	---------	45 NW	4:57p.m.				

* Reported by a ham operator
** Reported by Radio Station WMBL

Table 18 a

HURRICANES AND TROPICAL DISTURBANCES

(Names of storms in table correspond to names of tracks on chart at end of publication)

YEAR 1955

Storm name	Date	Area where first reported	Coast lines crossed	Highest wind speed reported	Lowest pressure reported	Place of dissipation reported	Intensity	Remarks
ALICE	Dec. 30, 1954 to Jan. 5, 1955	Lat. 21.5°N., Long. 52°W.	None	81 m.p.h. on St. Barthelemy on Jan. 2	29.15 in.	Lat. 13°N., Long. 63°W.	Hurricane	Passed through the northern Leeward Islands. Considerable damage in the islands of Anguilla, St. Martin, Saba, St. Kitts, St. Barthelemy, St. Eustatius, Nevis, and Barbuda. Monetary estimates not available.
BRENDA	July 31 - Aug. 2	North Gulf of Mexico	Louisiana near New Orleans	50-60 m.p.h. estimated		20-30 miles NW of Baton Rouge, La.	Less than hurricane	Two deaths in Mobile area. Considerable damage to highways near the waterfront.
CONNIE	Aug. 3-14	Near Lat. 16.0°N., Long. 38.0°W.	North Carolina	145 m.p.h estimated	27.88 in.	Northern Pa. and southwestern N. Y.	Hurricane	Damage estimated at $90,000 in S.C., $40,000,000 in N.C., $1,000,000 in Va., $4,000,000 in Md., $200,000 in N.J., and $775,000 in Mass. Hundreds of thousands in Pa. 25 deaths.
DIANE	Aug. 7-21	Near Lat. 17°N., Long. 43°W.	North Carolina	125 m.p.h. estimated	29.12 in.	Southeast of Nova Scotia	Hurricane	Damage estimated at $88,000 in S.C., $40,278,000 in N.C., $1,500,000 in Va., $100,000 in Md., $21,000,000 in N.J., $15,000,000 in N.Y., $76,740,000 in Pa., and $677,000,000 in New England. 184 deaths.
EDITH	Aug. 21- Sept. 3	Near Lat. 13°N., Long. 40°W.	None	90 m.p.h. estimated	29.26 in.	Neat Lat. 40°N., Long. 52°W.	Hurricane	Storm remained at sea.
Un-named	Aug. 23-29	Near Grand Cayman Island	Louisiana	45 m.p.h.	29.54 in. at New Orleans NAS	Western Missouri	Less than hurricane	
FLORA	Sept. 2-9	Lat. 19°N., Long. 32°W.	None	101 m.p.h. estimated	28.55 in. at 31.5° N., 55.3°W.	Neat Lat. 46°N., Long. 39°W.	Hurricane	Remained at sea.
GLADYS	Sept. 4-6	In southwestern Gulf of Mexico	Mexico	48 m.p.h. at Tampico 81 m.p.h. (estimated) off the coast farther north.		Mexico	Hurricane	Damage in Corpus Christi, Tex., area estimated at $500,000. Considerable flooding and some deaths in Mexico.
HILDA	Sept. 10-19	Near Lat. 17°N., Long. 61°W.	Cuba, Yucatan, and Mexican mainland	150 m.p.h. estimated	28.11 in. at Tampico	Mexico	Hurricane	Damage estimated at $120,000,000 in Mexico. Floods in the Tampico area caused 300 deaths. In Cuba damage estimated at $50,000 and four lives were lost. In Yucatan $100,000 damage; 300 deaths.
IONE	Sept. 10-23	At Lat. 15.6°N., Long. 43°W.	North Carolina	125 m.p.h. estimated	27.70 in.	Northern Newfoundland	Hurricane	Damage estimated at $88,000,000 in eastern North Carolina; seven deaths. In South Carolina damage to property amounted to $15,000 and to crops $20,000.
JANET	Sept. 21-29	At Lat. 13.5°N., Long. 55.5°W.	Yucatan Peninsula, Mexican mainland	200 m.p.h. estimated	27.00 in. at Chetumal, Yucatan	Mexico	Hurricane	Damage estimated in excess of $2,800,000 in Barbados, Grenadines, and Carriacou. 38 deaths in Barbados, 122 in Grenada and 25 in Carriacou. Eleven lives lost aboard a Navy reconnaissance plane. There was great damage on Swan Island. Property loss estimated at $40,000,000 in the Mexican state of Quintana Roo and $5,000,000 in British Honduras; 500 deaths in Quintana Roo and 16 in Corogal, British Honduras.
Un-named	Oct. 10-13	Lat. 28.5°N., Long. 42.8°W	None	About 55 m.p.h.	28.91 in.	Near Lat. 41°N. Long. 34°W.	Less than hurricane	Course lay far out in the Atlantic and the storm was unnamed.
KATIE	Oct. 14-19	Near Lat. 11°N., Long. 78°W.	Hispaniola	115 m.p.h. estimated	29.06 in.	Neat Lat. 43°N., Long. 46°W.	Hurricane	Damage to property in Dominican Republic estimated at $250,000. Seven deaths resulted from floods. Losses to agriculture and livestock were considerable. Damages to the southeast portion of Haiti were severe.

NORTH ATLANTIC HURRICANES AND TROPICAL DISTURBANCES FOR PAST YEARS

Table 19.- Frequency of tropical storms by month and season and number of storms reaching hurricane intensity

	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1901									
Number of tropical storms	0	1	2	1	3	2	1	0	10
Number of hurricanes	0	0	1	1	1	0	0	0	3
1902									
Number of tropical storms	0	2	0	0	0	1	1	0	4
Number of hurricanes	0	2	0	0	0	1	0	0	3
1903									
Number of tropical storms	0	0	1	1	3	3	0	0	8
Number of hurricanes	0	0	1	1	2	2	0	0	6
1904									
Number of tropical storms	0	0	0	0	3	4	2	0	9
Number of hurricanes	0	0	0	0	1	0	1	0	2
1905									
Number of tropical storms	0	0	0	0	2	1	0	0	3
Number of hurricanes	0	0	0	0	1	1	0	0	2
1906									
Number of tropical storms	0	2	0	1	2	3	1	0	9
Number of hurricanes	0	0	0	1	1	1	0	0	3
1907									
Number of tropical storms	0	0	0	0	2	2	0	0	4
Number of hurricanes	0	0	0	0	0	0	0	0	0
1908									
Number of tropical storms	0	0	1	0	2	3	0	0	6
Number of hurricanes	0	0	1	0	2	0	0	0	3
1909									
Number of tropical storms	0	2	2	2	2	1	3	0	12
Number of hurricanes	0	0	1	1	1	1	0	0	4
1910									
Number of tropical storms	0	0	0	1	2	1	0	0	4
Number of hurricanes	0	0	0	0	1	1	0	0	2
1911									
Number of tropical storms	0	0	0	2	0	0	0	0	2
Number of hurricanes	0	0	0	2	0	0	0	0	2
1912									
Number of tropical storms	0	1	1	0	2	3	1	0	8
Number of hurricanes	0	1	0	0	1	1	1	0	4
1913									
Number of tropical storms	0	1	0	0	1	2	0	0	4
Number of hurricanes	0	1	0	0	1	0	0	0	2
1914									
Number of tropical storms	0	0	0	0	1	1	0	0	2
Number of hurricanes	0	0	0	0	0	0	0	0	0
1915									
Number of tropical storms	0	0	0	2	3	0	0	0	5
Number of hurricanes	0	0	0	1	3	0	0	0	4
1916									
Number of tropical storms	0	0	3	3	3	3	1	0	13
Number of hurricanes	0	0	3	3	0	2	0	0	8
1917									
Number of tropical storms	0	0	0	0	2	0	0	0	2
Number of hurricanes	0	0	0	0	2	0	0	0	2
1918									
Number of tropical storms	0	0	0	2	2	0	0	0	4
Number of hurricanes	0	0	0	2	0	0	0	0	2
1919									
Number of tropical storms	0	0	1	0	2	0	1	0	4
Number of hurricanes	0	0	0	0	1	0	0	0	1
1920									
Number of tropical storms	0	0	0	0	4	0	0	0	4
Number of hurricanes	0	0	0	0	2	0	0	0	2
1921									
Number of tropical storms	0	1	0	0	3	1	0	0	5
Number of hurricanes	0	1	0	0	2	1	0	0	4
1922									
Number of tropical storms	0	1	0	0	2	2	0	0	5
Number of hurricanes	0	0	0	0	1	1	0	0	2
1923									
Number of tropical storms	0	0	0	0	2	3	0	0	5
Number of hurricanes	0	0	0	0	1	2	0	0	3

Table 19.- Frequency of tropical storms by month and season and number of storms reaching hurricane intensity

	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1924									
Number of tropical storms	0	1	0	2	2	2	1	0	8
Number of hurricanes	0	0	0	2	1	1	0	0	4
1925									
Number of tropical storms	0	0	0	1	1	0	0	1	3
Number of hurricanes	0	0	0	0	0	0	0	1	1
1926									
Number of tropical storms	0	0	1	2	5	1	1	0	10
Number of hurricanes	0	0	1	2	3	1	0	0	7
1927									
Number of tropical storms	0	0	0	1	3	2	1	0	7
Number of hurricanes	0	0	0	1	1	0	0	0	2
1928									
Number of tropical storms	0	0	0	2	3	1	0	0	6
Number of hurricanes	0	0	0	1	1	1	0	0	3
1929									
Number of tropical storms	0	1	0	0	1	0	0	0	2
Number of hurricanes	0	1	0	0	1	0	0	0	2
1930									
Number of tropical storms	0	0	0	1	1	0	0	0	2
Number of hurricanes	0	0	0	1	1	0	0	0	2
1931									
Number of tropical storms	0	1	1	1	3	1	1	0	8
Number of hurricanes	0	0	0	0	2	0	0	0	2
1932									
Number of tropical storms	1	0	0	2	4	2	2	0	11
Number of hurricanes	0	0	0	2	2	0	2	0	6
1933									
Number of tropical storms	1	1	3	6	6	3	1	0	21
Number of hurricanes	0	1	1	2	4	2	0	0	10
1934									
Number of tropical storms	1	1	1	2	2	3	1	0	11
Number of hurricanes	0	1	0	1	1	1	1	0	5
1935									
Number of tropical storms	0	0	0	1	2	1	1	0	5
Number of hurricanes	0	0	0	1	2	1	1	0	5
1936									
Number of tropical storms	0	3	2	6	5	1	0	0	17
Number of hurricanes	0	1	1	1	2	0	0	0	5
1937									
Number of tropical storms	0	0	1	2	5	1	0	0	9
Number of hurricanes	0	0	0	0	2	0	0	0	2
1938									
Number of tropical storms	0	0	0	3	1	3	1	0	8
Number of hurricanes	0	0	0	3	1	0	0	0	4
1939									
Number of tropical storms	0	1	0	1	1	1	1	0	5
Number of hurricanes	0	0	0	0	0	1	1	0	2
1940									
Number of tropical storms	1	0	0	3	2	2	0	0	8
Number of hurricanes	0	0	0	3	1	0	0	0	4
1941									
Number of tropical storms	0	0	0	0	4	2	0	0	6
Number of hurricanes	0	0	0	0	3	1	0	0	4
1942									
Number of tropical storms	0	0	0	3	1	3	1	0	8
Number of hurricanes	0	0	0	1	0	0	1	0	2
1943									
Number of tropical storms	0	0	1	2	4	3	0	0	10
Number of hurricanes	0	0	1	1	2	1	0	0	5
1944									
Number of tropical storms	0	0	2	3	3	2	0	0	10
Number of hurricanes	0	0	1	2	2	1	0	0	6
1945									
Number of tropical storms	0	1	1	4	3	1	0	0	10
Number of hurricanes	0	1	0	1	1	1	0	0	4
1946									
Number of tropical storms	0	1	1	1	1	1	1	0	6
Number of hurricanes	0	0	0	0	1	1	0	0	2

NORTH ATLANTIC HURRICANES AND TROPICAL DISTURBANCES FOR PAST YEARS–Continued

Table 19.- Frequency of tropical storms by month and season and number of storms reaching hurricane intensity

		May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Total
1947										
Number of tropical storms		0	0	1	3	3	3	0	0	10
Number of hurricanes		0	0	0	1	1	2	0	0	4
1948										
Number of tropical storms		2	0	1	2	3	1	1	0	10
Number of hurricanes		0	0	0	1	3	1	0	0	5
1949										
Number of tropical storms		0	0	0	3	5	2	1	0	11
Number of hurricanes		0	0	0	2	3	2	0	0	7
1950										
Number of tropical storms		0	0	0	3	3	6	0	0	12
Number of hurricanes		0	0	0	3	3	5	0	0	11
1951										
Number of tropical storms		1	0	0	2	4	3	0	0	10
Number of hurricanes		1	0	0	1	3	3	0	0	8
1952										
Number of tropical storms		0	0	0	1	3	2	0	0	6
Number of hurricanes		0	0	0	1	3	2	0	0	6
1953										
Number of tropical storms		1	0	0	1	4	2	0	0	8
Number of hurricanes		0	0	0	1	4	0	0	0	5
1954										
Number of tropical storms		0	1	1	1	4	2	0	0	9
Number of hurricanes		0	1	0	1	3	2	0	0	7
1955	(Jan)									
Number of tropical storms	1	0	0	0	5	5	2	0	0	13
Number of hurricanes	1	0	0	0	3	5	1	0	0	10

Table 19a.--Total number of tropical storms by morth and season and number reaching hurricane intensity for period 1887 to 1955

	Jan	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1887 to 1955										
Number of tropical storms	1	9	26	34	101	181	131	33	3	519
Number of hurricanes	1	2	12	16	63	114	59	9	1	277

Storms are listed under the month in which they ran most of their course.

Table 19b.--Total number of tropical storms and loss of life and damage in the United States, 1915-1941

Year	Total number of occurrences	Number reaching United States Coast	Loss of life in United States	Damage in United States
1915	5	2	550	$ 63,000,000
1916	13	3	107	33,324,000
1917	2	1	5	170,000
1918	4	1	34	5,000,000
1919	4	1	287	22,000,000
1920	4	2	2	3,000,000
1921	5	1	5	3,000,000
1922	5	0	0	0
1923	5	1	0	19,300
1924	8	1	2	Minor
1925	3	1	6	Minor
1926	10	3	269	106,500,000
1927	7	0	0	0
1928	6	3	1,836	25,000,000
1929	2	2	3	653,000
1930	2	1	0	Negligible
1931	8	3	0	0
1932	11	5	0	0
1933	21	5	63	45,650,000
1934	11	4	17	4,760,000
1935	5	2	414	11,500,000
1936	17	6	9	2,300,000
1937	9	5	0	42,500
1938	8	4	600	300,245,000
1939	5	3	3	2,000
1940	8	2	51	4,743,550
1941	6	4	10	7,675,000
Total	194	66	4,273	---
Median	6	2	---	---

Table 19c.- Total number, loss of life, and damage in all areas, and in the United States 1942-1955.

Year	Total number		Loss of Life		Damage	
	In all areas	Reaching U.S. Coast	Total all areas	In United States	Total all areas	In United States
1942	8	3	17	8	$ 31,101,000	$ 27,101,000
1943	10	4	19	16	16,765,000	16,765,000
1944	10	4	1,076	64	202,010,000*	165,010,000
1945	10	5	29	7	80,133,000*	80,133,000
1946	6	4	5	0	5,200,000*	5,200,000
1947	10	8	72	53	135,757,500	135,757,500
1948	10	5	24	3	24,400,000*	18,400,000
1949	11	3	4	4	59 762,000	58,750,000
1950	12	4	27	19	36,925,000*	35,850,000
1951	10	1	244	0	25,045,000*	2,000,000
1952	6	1	16	3	3,750,000*	2,750,000
1953	8	4	3	2	6,162,500*	6,162,600
1954	9	5	720+	193	857,015,000*	755,472,500*
1955	13	5	1,518+	218	1,135,000,000*	967,000,000*
Total	133	56	3,774+	590	-------------	-----------
Median	10	4	-----	---	-------------	-----------

* Considerable additional damage for which figures are not available.
+ Additional deaths for which figures are not available.
Loss of life and damage not available outside the United States prior to 1942.

EASTERN NORTH PACIFIC HURRICANES AND TROPICAL DISTURBANCES—1955

LYLE B. RASEY
Weather Bureau Forecast Center
San Francisco, California

Six tropical storms were charted off the west coast of Mexico during the 1955 hurricane season which extended from early June to mid-October. Two of these storms were known to have reached hurricane strength (75 m.p.h. or more). Thus, 1955 was a normal tropical storm season for this area.

Of the three Caribbean hurricanes which hit the east coast of Mexico, "Gladys", "Hilda" and "Janet", only "Janet" could be traced across Mexico to redevelop as a tropical storm in the Pacific. "Janet's" Pacific daughter moved northward, passing up the Gulf of Baja California and hit the southern portions of Sonora State, Mexico, on October 4. On October 16 a tropical storm of hurricane strength moved rapidly northward and hit the Mexican Coast in the vicinity of Manzanillo, resulting in considerable damage.

These two storms were the only ones to affect coastal areas. The other four moved westward or northwestward and dissipated at sea.

The San Francisco forecast center of the U. S. Weather Bureau issued a total of 55 tropical storm advisories during the season on all disturbances which were believed to be intensifying to Beaufort force 7 (32 m.p.h.) or greater. The intertropical front was active off the west coast of Mexico south of Baja California, during this period, resulting in almost daily rain squalls. This fact made it difficult to identify storm centers and trace their movement, especially when they drifted out of the coastal shipping lanes into areas where there were few reports. Only one of the six storms progressed north of latitude 20°N. and air reconnaissance, which originates at McClelland Air Force Base near Sacramento, Calif., was not attempted this season.

Five of the storms were within the area from latitude 11° to 20°N. and longitude 99° to 113°W. The storm in early October which hit southern Sonora moved as far north as latitude 28°N.

A discussion of individual storms follows.

I. Hurricane of June 5 to 8.--The SS HAWAIIAN CITIZEN steaming eastward began to run into increasing northwest wind and moderate rain on June 5 and by 4 p.m., p.s.t., at latitude 14.5°N. and longitude 111.1°W.; she reported 30 m.p.h. northwest wind and barometer 29.73 inches. A low pressure center was then believed to be located near latitude 14.0°N. and longitude 109.4°W. About 7 p.m., p.s.t., at latitude 14.5°N. and longitude 110.5°W. she reported winds of 40 m.p.h. and later on the 5th, at latitude 14.2°N. and longitude 109.9°W., she encountered northwest winds of 90 m.p.h. and had a barometer reading of 29.24 inches. This was the highest wind and lowest pressure for the storm. The hurricane was believed to be moving slowly northward.

On June 6 the PIONEER SEA passed north of the center, steaming eastward along latitude 15.0°N. and reported east winds of 31 m.p.h.

On the 7th, the storm appeared to be curving northwestward and on the 8th it was believed to be dissipating in the vicinity of latitude 17.1°N. and longitude 110.8°W.

II. Tropical Disturbance of June 7 to 10.--The second storm of the season was indicated by the HAWAIIAN FISHERMAN steaming westward 14 knots at latitude 11.4°N. and longitude 107.4°W. on the evening of June 7 when she reported a rapidly falling barometer, pressure 29.73 inches, wind south-southwest 30 m.p.h. and showers. The storm center was charted at latitude 11.5°N. and longitude 109.7°W. It was moving northwestward about 7 m.p.h. during the night of June 7.

At 8 a.m., p.s.t., June 8, the HAWAIIAN FISHERMAN, now at latitude 12.2°N. and longitude 110.3°W., reported the strongest wind and lowest pressure for this storm, -- south-southwest 52 m.p.h. and 29.63 inches. During the day she passed south of the center and the wind she was encountering began to diminish.

At 7 a.m., p.s.t., June 9, the HAWAIIAN EDUCATOR at latitude 11.9°N. and longitude 107.9°W., reported south-southwest wind of 35 m.p.h. and pressure 29.79 inches. During the 9th the storm was moving northeastward about 6 m.p.h. and the HAWAIIAN EDUCATOR passed about 120 miles to the south of the center. No further reports near the center were received, but the general analysis indicated the storm curved northward during the 10th and dissipated that evening near latitude 17.3°N. and longitude 108.7°W.

III. Tropical Disturbance of July 6 to 8.--The first indication of this tropical storm was the weather report from the GANNET at 7 a.m., p.s.t., July 6, located at latitude 15.2°N. and longitude 98.5°W. She reported pressure of 29.75 inches, wind southwest 63 m.p.h., thunderstorm, and very rough seas. This was the strongest wind reported for the storm. The storm center was then believed near latitude 15.8°N. and longitude 99.0°W. Also at 4 a.m., p.s.t., July 6, Acapulco, Mexico, 90 miles northwest of the center reported the lowest pressure for the storm - 29.67 inches.

The movement of the storm was difficult to follow, especially for the first 24 hours. An area of squalls moved inland north of Acapulco on the evening of the 6th. However, aloft there was a high pressure system over northern Mexico, producing easterly winds in the area of the tropical disturbance. The storm center moved in a westerly direction at about 10 m.p.h.

On the morning of July 7 an unidentified ship at latitude 12.8°N. and longitude 102.7°W. reported west-southwest winds 35 m.p.h. and pressure 29.71 inches. A few other ship reports with winds of 35 to 40 m.p.h. and at times heavy rain to the south of the center during the 7th and 8th continued to confirm the westward movement of the storm center. Quite low pressure and light squalls continued near the coast from Acapulco to the vicinity of Manzanillo. By the evening of July 8, the storm was believed to be dissipating near latitude 15.0°N. and longitude 108.5°W.

IV. Tropical Disturbance of August 31 to September 4.--During the afternoon of August 31, a tropical disturbance developed near latitude 17.5° N. and longitude 104.4°W. or about 115 miles south of Manzanillo, Mexico, as indicated by the CITRUS PACKER. She was located at latitude 18.1°N. and longitude 104.1°W. at 10 a.m., p.s.t., August 31, heading southeast 14 knots and reported east-northeast winds of 40 m.p.h., barometer 29.70 inches, and moderate rain. The storm moved in a general northwesterly direction at about 7 m.p.h.

There were few reports and poor fixes on the storm during the night of the 31st and morning of September 1.

At 7 p.m., p.s.t., of the 1st, the SPRINGFIELD at latitude 19.8°N. and longitude 105.7°W. reported a southeast wind of 45 m.p.h. and pressure 29.73 inches.

At 4 p.m., p.s.t., of the 1st, the lowest pressure for the storm, 29.53 inches, was reported by the SS ANAX at latitude 18.4°N. and longitude 106.9°W. The sea was very rough, and the wind east-southeast 35 m.p.h.

At 4 p.m., p.s.t., September 2, the CHOCTAW, at latitude 15.0°N. and longitude 109.0°W., reported 52 m.p.h., the strongest wind for the storm.

On September 3 and 4, the storm moved northwest about 7 m.p.h. and by evening on the 4th, it was believed dissipating near latitude 20.0°N. and longitude 112.7°W.

V.--Tropical Disturbance of September 30 to October 3.--The Caribbean hurricane, "Janet", moved inland on the east coast of Mexico on September 29 between Vera Cruz and Tampico, causing excessive rains and serious flooding. A weak center could be traced across Mexico and on September 30 an area of squalls appeared on the west coast about 85 miles west of Manzanillo. The center was poorly defined but it was thought to be drifting westward. On October 1 it curved northward and during the night of the 1st it began moving northwestward around 12 m.p.h.

At 1 p.m., p.s.t., on the 1st, the LENA LUCHENBACK, at latitude 19.9°N. and longitude 106.2°W., reported a southeast wind of 58 m.p.h., the strongest wind for the storm and at the same time the NIANTIC VICTORY, at latitude 20.8°N. and longitude 106.2°W., reported the lowest pressure for the storm of 29.60 inches.

During the night of October 2, it appeared that the storm was breaking up in the vicinity of La Paz, Baja California, but at 11 a.m., p.s.t., on the 3d the SS HARRY LUNDEBERG, at latitude 25.5°N. and longitude 110.2°W., reported the wind slightly north of east Beaufort force 7 or 8, pressure 29.77 inches but unsteady, and very high southeasterly swells. The storm was then heading northward across the Gulf of California. During the night of the 3d the storm moved inland in the vicinity of Guaymas, Mexico.

According to news reports the Pacific daughter of "Janet" caused excessive rains in the State of Sonora and flooding in the Yaqui River Valley on October 4. A number of persons were drowned.

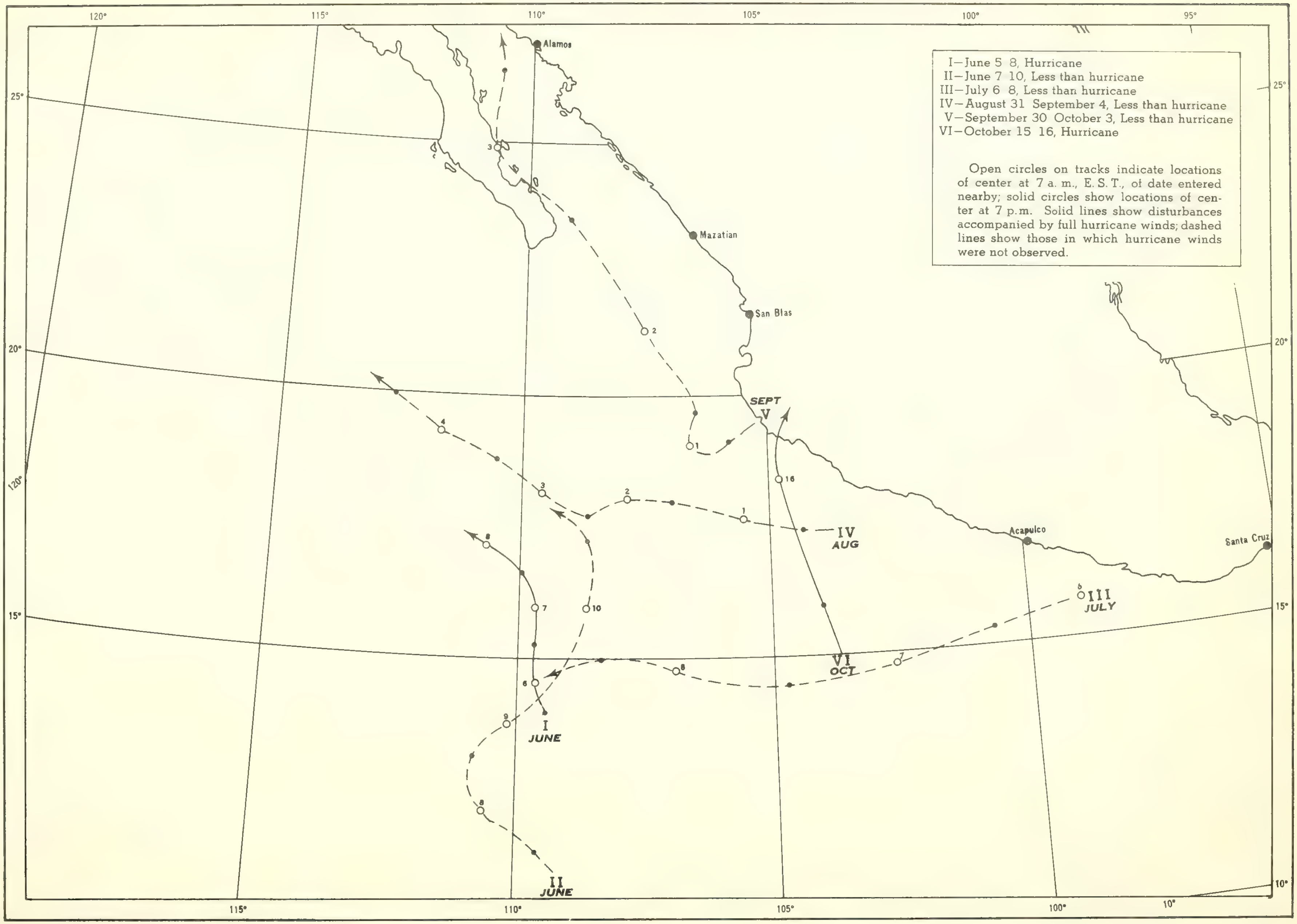
VI. Hurricane of October 15 and 16.--The last storm of the 1955 season was encountered by a Navy task force near latitude 16.0°N. and longitude 104.0°W. about 4 p.m., p.s.t., October 15. Although synoptic weather reports were not available, pertinent information on the storm was furnished the Weather Bureau by the Navy Weather Central, San Francisco, in routine discussions and exchange of information.

Since the storm by this time was already well developed, it must have originated at a lower latitude outside the usual shipping lanes. During the night of the 15th and morning of the 16th, it moved northward around 14 m.p.h. At 1 a.m., p.s.t., October 16, the PACIFIC UNITY, at latitude 18.8°N. and longitude 104.1°W., reported the wind southeast at 40 m.p.h. and pressure 29.81 inches.

The strongest wind and lowest pressure was reported by an unidentified vessel at latitude 18.8°N. and longitude 105.2°W. at 7 a.m., p.s.t., October 16, - wind north-northwest 75 m.p.h. and pressure 29.49 inches. This observation was furnished by the Navy Weather Central, San Francisco. By 10:30 a.m., p.s.t., October 16, the hurricane hit the coast about 30 miles northwest of Manzanillo, Mexico.

Excessive rains caused by this hurricane resulted in serious flooding in a 3-state area. News dispatches from Mexico City reported that raging floods "swept away dozens of towns and villages" and that the little coastal State of Colima was without communication and "practically all under water". Red Cross teams flown to the town of Atenquique in Jalisco State said the town was covered by mud and debris with "only the church steeple showing". The teams recovered 50 bodies from Atenquique.

EASTERN NORTH PACIFIC HURRICANES AND TROPICAL DISTURBANCES, 1955



I—June 5 8, Hurricane
II—June 7 10, Less than hurricane
III—July 6 8, Less than hurricane
IV—August 31 September 4, Less than hurricane
V—September 30 October 3, Less than hurricane
VI—October 15 16, Hurricane

Open circles on tracks indicate locations of center at 7 a. m., E. S. T., of date entered nearby; solid circles show locations of center at 7 p.m. Solid lines show disturbances accompanied by full hurricane winds; dashed lines show those in which hurricane winds were not observed.

GENERAL SUMMARY OF FLOOD LOSSES, 1954

Monetary losses from floods in the United States during 1954 are estimated at $106,840,500. This is slightly less than in 1953 and equal to 46 percent of the damages sustained in 1952. In comparison with the record flood loss of $1,028,742,000 sustained in 1951, it was only about 10 percent. Compared with the national average of $275,000,000 (based on the 10-year period, 1942-1951), adjusted to the 1951 price index, it was equal to 38.9 percent. The total loss of life was 55 in 1954 as compared to 40 in 1953 and 51 in 1951 (the year of the record flood loss). It was considerably less than the national annual average of 79 lives lost during the last 31 years (1924-1954). The savings resulting from the flood forecasting and warning service was, as compiled from fragmentary information, approximately $36,000,000 --- undoubtedly this figure was much greater as savings were reported from only 30 percent of the river systems reporting flooding during the year.

The severe floods in northern Iowa and southern Texas during June were the most damaging and widespread to be reported during 1954. These floods produced record to near-record stages in the Des Moines, Rock, Little Sioux, and Big Sioux River Basins in Iowa and the greatest flood of record in the Rio Grande from the mouth of the Pecos to Falcon Reservoir. Damages to growing crops were heavy in Iowa. Two lives were lost in the Iowa flood, while in Texas at least 16 lives were lost. On the Mexican side of the Rio Grande, there was a considerably greater loss of life.

ESTIMATED FLOOD LOSSES FOR 1954

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous	Unclassified	Total Loss	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
ST. LAWRENCE DRAINAGE																
Lake Michigan																
Streams in Chicago, Ill., area.........	....	....	....	....	....	....	....	....	....	....	....	....	....	a/ $15,000,000	$15,000,000	...
Total.....														15,000,000	15,000,000	
ATLANTIC SLOPE DRAINAGE																
Rivers in Maine........................	....	....	....	....	....	....	....	....	....	....	..$3,132,000	....	....	a/ 4,000,000	7,132,000	11
Mohawk River...........................	$2,500	$1,000	$1,500	....	....	....	....	....	$500	....	10,000	....	$2,000	....	17,500	...
West Branch and Juniata Rivers.........	1,000	300	....	....	$500	....	....	....	....	....	6,900	....	....	....	8,700	...
Potomac River..........................	1,200	....	350	$250	10,000	$2,900	$15,000	....	20,000	....	68,900	....	30,000	....	148,600	...
Dan, Roanoke, Tar, Neuse, and Cape Fear Rivers............................#	111,500	3,300	750	....	31,900	50,000	11,650	....	18,500	$4,600	32,400	....	34,200	....	298,800	1
Santee River and tributaries...........	....	....	....	....	....	....	....	....	....	50,000	29,500	....	103,000	....	182,500	...
Edisto River...........................	....	....	60,000	5,000	....	....	....	....	....	....	....	....	....	....	65,000	...
Total.....	116,200	4,600	62,600	5,250	42,400	52,900	26,650	....	39,000	54,600	3,279,700	....	169,200	4,000,000	7,853,100	12
EAST GULF OF MEXICO DRAINAGE																
Coosa River...........................#	....	....	....	....	....	....	....	....	....	....	b/ 331,000	....	....	10,700	341,700	...
Tombigbee River and Tributaries........	....	....	....	....	....	....	....	....	....	....	....	....	1,500	....	1,500	...
Pearl River............................	10,000	....	....	....	....	100,000	....	....	....	....	90,000	....	....	....	200,000	...
Total.....	10,000	....	....	....	....	100,000	....	....	....	....	421,000	....	1,500	10,700	543,200	...
MISSISSIPPI SYSTEM Upper Mississippi Basin																
Chippewa River and minor tributaries of Upper Mississippi River.........#	58,800	21,300	238,500	3,000	27,000	251,000	....	....	27,500	1,000	93,000	$4,000	137,000	....	862,100	...
Zumbro and Whitewater Rivers...........	500	....	2,000	....	5,000	75,000	....	....	....	....	1,500	1,000	1,000	....	86,000	...
Trempealeau River......................	10,500	....	14,000	6,000	280,000	12,000	....	$5,000	6,000	....	6,000	3,500	5,000	....	348,000	...
Root, Upper Iowa, and Turkey Rivers.....	1,200	....	5,000	....	13,000	451,400	....	....	29,900	1,000	51,500	51,000	6,400	....	610,400	2
Pecatonica River.......................	1,000	1,000	5,000	1,000	10,000	404,400	....	....	17,200	....	5,000	....	5,400	....	450,000	...
Iowa and Cedar Rivers..................	165,200	....	57,300	....	25,500	6,435,200	....	....	759,000	....	423,200	....	134,000	....	7,999,400	1
Skunk River............................	....	....	....	....	....	830,300	....	....	....	....	82,200	....	400	....	912,900	...
Des Moines River and tributaries.......	409,000	....	170,100	....	144,800	7,208,500	....	....	1,622,000	....	1,887,500	....	1,630,000	....	13,071,900	1
Mississippi River......................	15,100	....	6,200	....	18,400	205,500	2,000	12,000	2,000	....	9,000	....	120,900	....	391,100	...
Total.....	661,300	22,300	498,100	10,000	523,700	15,873,300	2,000	17,000	2,463,600	2,000	2,558,900	59,500	2,040,100	....	24,731,800	4
Missouri Basin																
Milk River............................#	62,100	11,900	....	....	....	....	....	....	112,400	16,500	115,800	....	32,500	....	351,200	...
Tongue and Powder Rivers..............#	66,200	....	....	....	....	....	....	....	33,000	7,800	1,800	....	500	....	109,300	...
Heart and Poplar Rivers................	15,000	....	....	....	....	40,000	....	....	10,000	....	50,000	....	1,500	....	116,500	...
Vermillion River......................#	800	....	....	....	....	663,900	....	....	....	....	42,300	....	20,500	....	727,500	...
Big Sioux River.......................#	12,000	....	....	....	8,500	960,000	26,000	....	15,000	....	72,000	500	3,400	....	1,097,400	...
Floyd River...........................#	....	....	....	....	....	230,200	....	300	1,200	....	5,300	....	8,600	....	245,600	...
Little Sioux River....................#	55,000	6,000	35,000	5,000	15,000	2,738,500	10,500	18,000	180,000	4,000	378,000	10,000	65,000	....	3,520,000	...
Platte River tributaries (except Elkhorn River)....................#	8,000	8,000	25,000	1,500	17,000	228,000	8,000	1,200	6,500	9,000	126,600	2,000	11,000	....	451,800	...
Elkhorn River.........................#	9,600	25,000	25,000	....	50,000	911,900	10,000	....	40,000	....	59,400	....	29,100	....	1,160,000	...

See reference notes at end of table.

ESTIMATED FLOOD LOSSES FOR 1954

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous	Unclassified	Total Loss	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
MISSISSIPPI SYSTEM--CONT. **Missouri Basin--Cont.**																
Little Nemaha and Nemaha Rivers......#	$17,900	....	$14,400	....	....	$1,010,900	....	$500	$94,200	$10,000	$417,900	....	....	....	$1,565,800	....
Nodaway River........................#	17,150	....	....	....	....	43,350	....	....	....	....	2,500	....	....	....	63,000	....
Solomon River........................#	....	....	....	....	....	383,300	....	....	....	....	17,800	....	....	....	401,100	....
Blue River and tributaries...........#	18,000	....	2,000	....	$8,000	572,900	....	....	103,000	....	127,500	....	$2,700	....	834,100	....
Grand and Chariton Rivers............#	....	....	....	....	....	268,200	....	....	....	....	6,300	....	....	....	274,500	....
Osage River..........................#	9,500	....	....	....	....	626,800	....	....	....	....	67,500	....	....	....	703,800	....
Missouri River and minor tributaries.#	17,100	....	....	....	....	314,800	....	....	....	....	19,300	....	10,000	....	361,200	..
Total.....	308,350	$50,900	101,400	$6,500	98,500	8,992,750	$54,500	20,000	595,300	47,300	1,510,000	$12,500	184,800	....	11,982,800	....
Ohio Basin																
Allegheny River......................	19,300	31,800	8,050	5,450	27,650	37,350	....	3,600	3,200	50	456,300	....	23,250	....	616,000	2
Monongahela River....................	479,500	371,400	1,313,000	2,221,000	177,600	162,500	200	300	11,000	300	201,000	....	4,037,300	....	8,975,100	2
Little Kanawha River.................	100	50	....	....	....	25,200	....	....	50	....	....	....	100	....	25,500	....
Kanawha River and tributaries........	156,000	59,500	212,000	211,500	308,000	337,000	7,000	4,200	82,000	16,000	290,000	73,000	334,000	....	2,090,200	1
Little Miami River...................	7,700	....	3,000	15,100	....	2,000	....	....	....	2,400	1,100	1,000	300	....	32,600	1
French Broad River...................Ø	....	....	3,500	1,000	15,300	4,000	....	....	7,800	....	24,000	....	5,600	....	61,200	.
Tennessee River and minor tributariesØ	12,800	....	9,600	....	3,600	36,600	....	....	41,300	....	134,600	....	19,200	....	257,700	3
Ohio River...........................	277,500	44,500	90,600	120,900	45,200	174,500	500	....	....	....	871,000	....	2,044,000	2,837,200	6,505,900	..
Total	952,900	507,250	1,639,750	2,574,950	577,350	779,150	7,700	8,100	145,350	18,750	1,978,000	74,000	6,463,750	2,837,200	18,564,200	9
Arkansas Basin																
Verdigris River and tributaries .....#	....	....	....	....	....	60,000	....	....	10,000	....	42,000	....	....	....	112,000	...
Neosho River.........................	....	....	....	....	....	60,000	....	....	1,000	500	3,000	....	....	....	64,500	..
Illinois and Poteau Rivers...........	....	....	....	....	....	15,900	....	3,000	....	....	....	....	....	....	18,900	..
Deep Fork River......................	30,000	....	....	....	....	70,000	....	....	....	....	....	....	....	....	100,000	..
Total.....	30,000	....	....	....	....	205,900	....	3,000	11,000	500	45,000	....	....	....	295,400	...
Red Basin																
Beaver and Cow Creeks................#	....	....	....	....	50,000	....	....	....	....	....	4,000	....	400	....	54,400	...
Washita River........................#	....	....	....	....	....	323,500	....	5,000	27,100	6,000	333,800	10,000	500	....	705,900	.
Clear and Muddy Boggy Creeks.........#	....	....	....	....	....	132,000	....	....	29,500	....	1,000	....	....	....	162,500	...
Total.....	....	....	....	....	50,000	455,500	....	5,000	56,600	6,000	338,800	10,000	900	....	922,800	...
Lower Mississippi Basin																
St. Francis River....................	....	....	....	....	....	5,000	....	....	....	....	....	....	....	....	5,000	....
Yazoo River..........................	....	....	....	....	....	455,000	....	....	9,000	....	21,000	....	....	....	485,000	..
Total.....	....	....	....	....	....	460,000	....	....	9,000	....	21,000	....	....	....	490,000	....
WEST GULF OF MEXICO DRAINAGE																
Nezpique Bayou.......................	....	....	....	....	....	....	....	....	....	....	....	....	1,000	....	1,000	.
Sabine River.........................	....	....	....	....	....	13,000	....	2,000	....	....	30,000	....	9,000	....	54,000	.
Nueces River.........................	....	....	....	....	....	....	....	....	....	....	85,000	....	....	....	85,000	..
Pecos River..........................#	616,600	90,000	57,000	30,000	1,548,500	1,185,500	12,800	10,200	60,000	15,500	752,900	11,700	34,500	....	4,425,200	13
Devils River and tributaries.........#	1,632,000	1,279,300	261,000	329,000	63,000	4,000	....	185,000	474,000	....	528,000	250,000	223,400	....	5,228,700	16

See reference notes at end of table.

ESTIMATED FLOOD LOSSES FOR 1954

River and drainage	Urban Property					Rural Property					Other Property					
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities	Miscellaneous	Unclassified	Total Loss	Lives Lost
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
WEST GULF OF MEXICO DRAINAGE--CONT.																
Rio Grande..........................#	$1,653,000	$1,091,000	$750,000	$1,045,000	$1,208,000	$1,058,000	....	$27,000	$959,000	....	$1,576,000	$1,284,000	$1,194,000	....	$11,845,000	....
Total.....	3,901,600	2,460,300	1,068,000	1,404,000	2,819,500	2,260,500	$12,800	224,200	1,493,000	$15,500	2,971,900	1,545,700	1,461,900	....	21,638,900	29
GULF OF CALIFORNIA DRAINAGE Colorado Basin																
Virgin River and tributaries..........	3,000	100	3,000	800	4,000	11,000	2,000	2,200	200	....	18,000	....	....	....	44,300	....
Gila River..........................#	....	25,000	....	90,000	7,700	1,400,000	....	....	53,500	....	268,000	1,500	....	....	1,845,700	....
Total.....	3,000	25,100	3,000	90,800	11,700	1,411,000	2,000	2,200	53,700	....	286,000	1,500	....	....	1,890,000	....
PACIFIC SLOPE DRAINAGE Sacramento Basin																
Feather River..........................	....	....	....	....	....	....	....	500	....	....	....	....	....	....	500	....
Total.....	....	....	....	....	....	....	....	500	....	....	....	....	....	....	500	....
Coastal Drainage																
Santa Ana River....................#	....	....	....	....	....	....	....	....	....	....	41,500	....	....	....	41,500	....
San Gabriel River...................#	189,000	....	....	....	37,000	3,600	....	....	600	800	83,700	7,000	....	2,000	323,700	....
Los Angeles River and tributaries....#	121,000	....	....	....	29,000	....	....	....	....	....	278,500	3,000	....	14,000	445,500	....
Russian River..........................	40,000	15,000	63,000	....	10,000	33,000	....	....	....	250,000	60,000	7,000	....	....	478,000	....
Cottoneva Creek........................	1,500	1,000	....	....	....	....	....	....	....	....	....	....	....	600	3,100	....
Eel River..........................#	....	....	....	....	....	15,000	....	....	65,000	....	15,000	....	....	....	95,000	....
Total.....	351,500	16,000	63,000	....	76,000	51,600	....	....	65,600	250,800	478,700	17,000	....	16,600	1,386,800	....
Columbia Basin																
Snake River..........................	....	....	....	....	....	....	....	....	....	....	....	....	....	10,000	10,000	....
Kootenai River......................#	12,000	2,000	10,000	15,000	....	300,000	....	1,000	30,000	1,000	750,000	10,000	155,000	....	1,286,000	1
Flathead River.........................	....	....	10,000	....	....	....	....	....	....	....	20,000	....	....	....	30,000	....
Willamette River.......................	15,000	....	5,000	35,000	....	....	....	....	5,000	....	....	....	....	....	60,000	....
Columbia River.........................	25,000	....	....	....	....	.. 15,000	5,000	50,000	....	....	50,000	....	10,000	....	155,000	....
Total.....	52,000	2,000	25,000	50,000	....	315,000	5,000	51,000	35,000	1,000	820,000	10,000	165,000	10,000	1,541,000	1
Grand Total	6,386,850	3,088,450	3,460,850	4,141,500	4,199,150	30,957,600	110,650	331,000	4,967,150	396,450	14,709,000	1,730,200	10,487,150	21,874,500	106,840,500	55

a/ Incomplete.
b/ Includes losses to agriculture.
Coordinated with U. S. Engineers.
Ø From TVA reports.

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

YEAR 1955

The most significant flooding during 1955 occurred in southern New England, eastern Pennsylvania, southeastern New York and northern New Jersey during August, due to torrential rains associated with hurricane Diane. Both rains and floods were of record proportions and resulted in tremendous property damage. The floods on the West Coast in December ranked second in importance. Record to near-record floods resulted in streams in northern and central California, western Nevada, southwestern Oregon, and southwestern Idaho.

Flooding during January 1955 was light with most of it occurring in the Mississippi System. Flooding elsewhere was widely scattered and minor. In the East Gulf of Mexico drainage, drought conditions continued for the 13th consecutive month. The previous January record low stage was equalled on the Cahaba River at Marion Junction, Ala.

The most significant flooding during February and March occurred in the Ohio Basin toward the end of February and the first half of March. The overflows were generally the highest since April 1948. The highest stage since March 1929 was reached on the Levisa Fork of the Big Sandy River at Pikeville, Ky. Very little damage, however, was reported. At Prestonville, Ky., the next town downstream from Pikeville, there was considerable flooding, with one section of the business district inundated up to 3 feet. This was the first time this town had been flooded since March 1929. At Paintsville, Ky., the town was flooded in several low sections that had been built up in the past 6 years. The damages in the entire Ohio Basin amounted to several million dollars. Record flooding also occurred in March in the headwaters of the Tombigbee River at Aberdeen, Miss. Flooding elsewhere during February and March was mostly light with some moderate overflows.

The most important flooding during April occurred in the East Gulf of Mexico drainage where major flooding was reported on some streams. Flooding elsewhere was mostly light. In the Arkansas Basin, streams remained low, averaging several feet below normal. Record to near-record mean monthly low stages were reported in the Arkansas Basin during April.

During May, flash floods were common in the East Gulf of Mexico drainage and in the Ohio, Red, and Arkansas Basins. The flash flood in the Red Basin at Waurika, Okla., exceeded the record flood of 1951. In the Arkansas Basin, major flooding occurred in the Purgatoire River at Trinidad, Colo. On the Cimarron River at Perkins, Okla., and on the Chikaskia River at Blackwell, Okla., the floods were near record. Damages from these floods amounted to several million dollars.

During June, severe flash floods were reported on the North Platte River in Wyoming and Nebraska, and in the Colorado River Basin at Las Vegas, Nev. Floods reported elsewhere were light.

There was no general flooding during July. Damages resulting from localized overflows were relatively light.

Flooding during August was due to torrential rains associated with the passage of hurricane Diane up the Middle and North Atlantic States. These floods were the most damaging ones of the year and resulted in several hundred million dollars damage. The loss of life in the areas in which the Red Cross was called on to render assistance totaled 180. Several additional lives were lost in areas where floods were not severe enough to require Red Cross assistance. The sections worst hit by the floods were in Massachusetts, the Connecticut River Valley south of Holyoke, and Worcester County; in Connecticut, the Naugatuck, Housatonic, Connecticut, and upper Thames River Valleys; in Rhode Island, the Woonsocket area; the Catskills area in southeastern New York; the Delaware River and tributaries in northern New Jersey; in Pennsylvania, the Pocono Mountain area from Scranton to Stroudsburg, the Lehigh and upper Schuylkill Valleys, and the Delaware River area north of Philadelphia.

The most significant floods during September occurred in the coastal areas of the Carolinas and in the Nueces and upper Brazos Rivers in Texas. The flood in the Nueces and upper Brazos Rivers in Texas were the worst since 1930. The Neuse River at Goldsboro, N. C., reached the second highest stage since 1930.

During October, serious floods occurred in southern New England and southeastern New York for the second time in a 3-month period. These floods were not as extensive or damaging as the Hurricane Diane floods of August. Southwestern Connecticut was hardest hit this time with severe damages occurring in the Housatonic River Basin and in the coastal areas from Milford to Greenwich. Record flooding occurred in Schoharie Creek in southeastern New York. The Ramapo River in northeastern New Jersey reached its highest level in 52 years.

Major flooding occurred in the Skagit and Snohomish River Valleys in Washington during November. The crest of 25.7 feet on the Skagit River at Mount Vernon, Wash., was the highest reached since February 1951. The crest on the Snohomish was 2 feet below the 1951 peak. Moderate floods occurred in the Wabash and White River Basins in Indiana during the last half of November. Flash flood damage at Franklin, Ind., was heavy where rising waters of Sugar and Young's Creeks forced about 50 families to leave their homes. Floods elsewhere were mostly minor.

Record to near-record floods occurred in streams in northern and central California, western Nevada, southwestern Oregon and southwestern Idaho during the last half of December. The floods in the Sacramento and San Joaquin Basins were about equal to the previous high floods of 1950. Record high stages occurred on several tributaries to the Middle and Lower Willamette River and a few tributaries of the Rogue River in Oregon. Maximum floods of record were reported on Weiser and Payette Rivers in Idaho. In western Nevada, record floods occurred on the Carson River and near-record floods on the Truckee River. The only serious flooding in Washington was on the Chehalis River. According to the Red Cross, 74 lives were lost, 66 in California and 8 in Oregon. These floods ranked second in severity, destructiveness, and loss of life, during 1955.

RADIOSONDE DATA

Average annual values

Table 20

YEAR 1955

Standard pressure surface (mb.)	ALBUQUERQUE, N. MEX. (838 MB.)				ANCHORAGE, ALASKA (1004 MB.)				ANNETTE, ALASKA (1010 MB.)				BARROW, ALASKA (1015 MB.)				BETHEL, ALASKA (1007 MB.)				BISMARCK, N. DAK. (955 MB.)				BOISE, IDAHO (915 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	365	1,619	14.4	35	364	30	2.9	60	365	37	6.7	77	365	8	-13.9	74	364	4	- 0.3	77	364	505	4.8	66	363	868	10.2	57
1,000	365	86			364	63	2.3		365	120	6.1	75	365	120	-13.6	79	364	62	- 1.2		364	117			363	121		
950	365	536			364	479	1.5	59	365	541	3.4	74	365	520	-11.3	77	364	476	- 1.4	72	364	545	4.6	61	363	558		
900	365	1,003			364	911	- .8	60	365	975	.6	75	365	928	-10.1	71	364	901	- 3.4	71	364	984	5.8	58	363	1,007	11.4	47
850	365	1,492			364	1,364	- 3.6	63	365	1,431	- 2.1	74	365	1,368	-10.6	64	364	1,351	- 5.3	69	364	1,450	4.1	57	363	1,483	9.0	44
800	365	2,005	13.1		364	1,811	- 6.5	66	365	1,911	- 4.6	71	364	1,832	-12.2	59	364	1,825	- 7.4	66	364	1,942	2.0	55	363	1,982	5.6	46
750	365	2,548	9.2		364	2,346	- 9.3	64	364	2,422	- 7.2	65	364	2,333	-14.3	55	364	2,330	- 9.9	63	364	2,467	- .7	53	363	2,512	1.9	49
700	365	3,111	4.9		364	2,873	-12.3	60	364	2,952	-10.1	60	364	2,844	-17.0	53	364	2,855	-12.7	58	364	3,008	- 3.7	50	363	3,059	- 1.9	49
650	365	3,711	.3	42	364	3,441	-15.6	58	361	3,525	-13.4	56	364	3,408	-20.1	50	363	3,423	-15.8	55	364	3,597	- 7.2	49	363	3,650	- 5.8	49
600	365	4,347	- 4.4	44	363	4,036	-19.1	54	361	4,124	-17.0	53	363	3,986	-23.5	48	363	4,016	-19.3	52	363	4,210	-10.9	47	361	4,267	- 9.9	47
550	363	5,028	- 9.2	45	363	4,680	-23.1	52	360	4,774	-21.0	49	362	4,625	-27.3		363	4,661	-23.2	49	361	4,875	-15.2	45	359	4,936	-14.3	
500	359	5,757	-14.3		362	5,370	-27.4		359	5,468	-25.4		360	5,298	-31.7		363	5,349	-27.6	47	360	5,587	-20.0		358	5,648	-19.2	
450	354	6,558	-19.7		359	6,125	-32.3		358	6,230	-30.6		357	6,045	-36.5		363	6,104	-32.5		359	6,368	-25.4		357	6,432	-24.7	
400	352	7,413	-25.7		358	6,942	-37.8		356	7,052	-36.3		356	6,842	-41.8		362	6,919	-37.9		359	7,204	-31.4		354	7,271	-30.8	
350	349	8,366	-32.7		358	7,849	-43.9		355	7,965	-42.6		356	7,735	-47.5		362	7,826	-44.1		357	8,135	-38.3		354	8,205	-37.5	
300	348	9,433	-40.4		355	8,868	-49.8		355	8,991	-48.5		353	8,740	-52.5		359	8,846	-49.6		355	9,178	-45.3		351	9,252	-44.7	
250	346	10,653	-48.6		349	10,049	-52.7		352	10,176	-52.6		349	9,912	-53.6		358	10,030	-51.8		353	10,375	-51.6		347	10,452	-51.5	
200	341	12,094	-55.8		343	11,493	-50.7		346	11,615	-52.4		344	11,355	-50.4		345	11,480	-50.3		346	11,810	-54.8		345	11,886	-55.1	
175	338	12,939	-58.4		341	12,363	-49.8		342	12,478	-51.6		341	12,227	-49.7		340	12,352	-49.4		341	12,661	-54.9		342	12,736	-55.6	
150	335	13,902	-60.8		336	13,371	-49.7		338	13,478	-51.9		337	13,234	-49.7		331	13,359	-49.5		334	13,646	-55.6		339	13,716	-56.3	
125	319	15,026	-63.9		326	14,562	-50.1		328	14,656	-52.7		330	14,425	-50.0		312	14,549	-49.8		330	14,804	-56.9		334	14,869	-57.7	
100	300	16,386	-65.6		310	16,013	-50.4		311	16,090	-53.5		317	15,880	-50.3		290	16,001	-49.8		314	16,214	-57.8		320	16,271	-58.8	
80	266	17,737	-64.6		285	17,467	-50.9		281	17,519	-54.0		293	17,338	-50.8						298	17,619	-58.1		291	17,669	-58.8	
60	223	19,502	-61.8		254	19,332	-51.6		248	19,362	-54.4		268	19,208	-51.4						257	19,432	-58.1		263	19,475	-58.3	
50	201	20,635	-59.8						209	20,530	-54.6										218	20,580	-57.5		240	20,626	-57.9	
40																					178	21,992	-56.9					
	BROWNSVILLE, TEX. (1014 MB.)				BUFFALO, N.Y. (994 MB.)				BURRWOOD, LA. (1017 MB.)				CAMAGUEY, CUBA (1002 MB.)				CARIBOU, ME. (991 MB.)				CHARLESTON, S. C. (1017 MB.)				COLUMBIA, MO. (988 MB.)			
SURFACE	363	7	22.1	82	364	182	8.3	80	362	3	20.5	84	302	122	21.5		364	191	3.1	77	364	13	16.1	84	365	238	12.3	67
1,000	363	129	22.1	80	364	129			362	148	20.8	77	302	137	21.6		364	112			364	154	17.9	72	365	131		
950	363	580	20.0	74	364	556	8.1	68	362	593	18.4	71	302	588	21.3		364	533	3.2	69	364	598	16.7	62	365	568	13.0	57
900	363	1,040	18.4	62	364	1,000	5.7	68	362	1,053	16.2	63	302	1,052	18.9		364	967	1.3	69	364	1,053	14.4	59	365	1,017	10.8	57
850	363	1,529	16.6		364	1,466	3.2	67	362	1,538	13.8	56	302	1,541	16.2		364	1,426	- .4	68	364	1,534	11.9	56	365	1,492	8.5	56
800	363	2,043	14.5		364	1,955	.8	63	362	2,047	11.6	49	302	2,055	13.6		364	1,909	- 2.4	65	364	2,040	9.4	53	365	1,992	6.3	53
750	362	2,592	11.9		364	2,477	- 1.5	56	362	2,590	9.1	44	302	2,604	11.0		364	2,425	- 4.7	61	364	2,581	6.8		365	2,525	3.8	49
700	362	3,160	8.6		362	3,018	- 4.3	52	362	3,153	6.2		302	3,169	8.1		364	2,960	- 7.1	55	364	3,137	3.8		365	3,077	.9	44
650	362	3,774	4.7		362	3,605	- 7.1		359	3,760	2.8		302	3,787	4.8		362	3,540	-10.1	50	364	3,743	.6		364	3,673	- 2.5	41
600	360	4,417	.5		359	4,219	-10.6	46	354	4,401	- 1.1		299	4,426	1.2		360	4,147	-13.4	47	363	4,374	- 3.0		364	4,300	- 6.3	
550	360	5,110	3.8		357	4,886	-14.6	43	351	5,090	- 5.3		298	5,125	- 2.9		358	4,807	-17.5		363	5,064	- 7.1		363	4,975	-10.7	
500	359	5,855	- 8.7		354	5,597	-19.3		349	5,832	-10.1		298	5,869	- 7.6		358	5,511	-22.1		363	5,795	-11.9		362	5,701	-15.5	
450	357	6,673	-14.1		351	6,378	-24.6		346	6,643	-15.6		297	6,693	-12.9		356	6,285	-27.3		363	6,605	-17.1		362	6,497	-20.9	
400	357	7,548	-20.3		350	7,219	-30.5		345	7,514	-21.8		297	7,570	-19.1		355	7,115	-33.0		363	7,467	-23.2		362	7,348	-27.1	
350	356	8,522	-27.5		349	8,154	-37.2		336	8,483	-29.1		295	8,550	-26.2		352	8,041	-39.3		363	8,431	-30.4		359	8,296	-34.2	
300	352	9,613	-35.7		339	9,203	-44.1		334	9,565	-37.4		294	9,646	-34.5		345	9,084	-45.6		363	9,509	-38.5		358	9,357	-41.9	
250	350	10,854	-45.3		333	10,407	-50.7		322	10,798	-46.9		293	10,896	-43.9		340	10,283	-50.8		359	10,738	-47.7		357	10,569	-49.9	
200	341	12,308	-55.5		318	11,841	-55.0		316	12,244	-56.2		288	12,360	-54.6		333	11,725	-53.3		357	12,182	-56.5		356	12,006	-56.0	
175	336	13,149	-60.4		305	12,692	-56.1		309	13,082	-60.3		281	13,203	-60.4		327	12,582	-53.8		352	13,021	-59.8		354	12,851	-57.7	
150	312	14,099	-65.2		287	13,664	-57.5		301	14,033	-64.4		257	14,150	-66.3		321	13,569	-54.6		348	13,977	-63.0		342	13,818	-59.6	
125	271	15,196	-69.7		250	14,814	-58.9		287	15,137	-68.1		194	15,242	-71.4		314	14,732	-55.8		339	15,091	-65.9		329	14,950	-61.9	
100	207	16,517	-72.6						250	16,471	-70.5						296	16,149	-56.9		318	16,438	-67.5		307	16,325	-63.2	
80	160	17,827	-72.0						217	17,796	-69.7						257	17,555	-57.3		289	17,780	-66.7		284	17,697	-62.9	
60									184	19,525	-65.9						231	19,371	-57.3		249	19,531	-63.4		247	19,475	-61.2	
50									164	20,640	-62.8						202	20,521	-57.1		232	20,658	-61.1		219	20,609	-59.6	
40																					202	22,054	-58.0		190	22,011	-57.6	
	DODGE CITY, KANS. (924 MB.)				EL PASO, TEX. (881 MB.)				ELY, NEV. (808 MB.)				FAIRBANKS, ALASKA (994 MB.)				GLASGOW, MONT. (937 MB.)				GRAND JUNCTION, COLO. (852 MB.)				GREAT FALLS, MONT. (886 MB.)			
SURFACE	363	792	12.1	57	364	1,195	18.6	33	364	1,908	7.2	48	365	135	- 1.4	62	359	695	5.1	61	364	1,474	11.4	44	365	1,123	5.9	58
1,000	363	116			364	87			364	111			365	82			359	116			364	102			365	113		
950	363	554			364	541			364	554			365	491	- 1.2	56	359	544			364	545			365	547		
900	363	1,010	13.0	47	364	1,010			364	1,012			365	921	- 3.0	58	359	985	6.0	53	364	1,004			365	993		
850	363	1,489	11.5	45	364	1,502	18.4		364	1,488			365	1,372	- 5.2	60	359	1,452	4.1	52	364	1,487	11.5		365	1,460	5.8	48
800	363	1,994	9.2	43	364	2,018	14.6		364	1,993	9.2	43	365	1,846	- 7.4	61	359	1,943	1.6	52	364	1,995	10.8	36	365	1,954	2.8	52
750	363	2,531	6.2	41	364	2,563	10.7		364	2,531	6.6	42	365	2,351	-10.2	62	359	2,465	- 1.5	52	364	2,535	7.1	38	365	2,479	- .8	57
700	363	3,088	2.7	40	364	3,130	6.5		364	3,088	2.5	44	365	2,875	-13.2	60	359	3,006	- 4.8	52	364	3,092	2.7	42	365	3,021	- 4.3	59
650	362	3,688	- 1.2	38	364	3,737	2.1		364	3,686	- 2.0	47	364	3,442	-16.5	58	359	3,591	- 8.3	50	364	3,692	- 1.8	45	365	3,607	- 8.0	57
600	362	4,317	- 5.4	37	363	4,375	- 2.3		364	4,314	- 6.5	48	362	4,033	-20.2	55	353	4,203	-12.0	49	364	4,319	- 6.5	48	365	4,219	-12.0	54
550	361	4,997	- 9.9		361	5,061	- 7.0		364	4,990	-11.2	46	362	4,675	-24.2	53	353	4,866	-16.3		363	4,995	-11.3	48	365	4,882	-16.4	52
500	360	5,722	-14.8		358	5,796	-12.0		362	5,713	-16.2	44	361	5,360	-28.7	51	351	5,574	-21.1		363	5,717	-16.3		362	5,590	-21.3	50
450	360	6,520	-20.3		357	6,605	-17.5		362	6,507	-21.6		360	6,113	-33.8		350	6,351	-26.5		358	6,510	-21.7		361	6,367	-26.7	
400	359	7,373	-26.5		355	7,467	-23.6		361	7,357	-27.6		357	6,922	-39.3		350	7,184	-32.4		356	7,358	-27.8		361	7,200	-32.8	
350	358	8,324	-33.5		348	8,427	-30.9		359	8,304	-34.4		357	7,824	-45.2		349	8,112	-39.3		355	8,303	-34.9		359	8,125	-39.6	
300	354	9,388	-41.2		341	9,502	-38.9		357	9,365	-41.9		356	8,839	-50.9		346	9,152	-46.2		352	9,361	-42.5		357	9,164	-46.4	
250	352	10,602	-49.3		336	10,728	-47.8		355	10,578	-49.6		352	10,016	-53.5		341	10,346	-52.1		348	10,570	-50.1		355	10,355	-52.3	
200	349	12,041	-55.8		325	12,173	-56.0		351	12,016	-55.4		351	11,456	-50.9		337	11,778	-54.4		344	12,006	-55.3		355	11,787	-54.6	
175	346	12,885	-57.9		320	13,014	-59.5		345	12,864	-57.0		349	12,325	-49.9		332	12,634	-54.4		342	12,853	-57.1		354	12,641	-54.7	
150	342	13,851	-60.1		316	13,970	-62.9		344	13,835	-58.7		343	13,330	-49.6		322	13,620	-54.9		340	13,824	-58.9		354	13,624	-55.2	
125	332	14,979	-62.6		297	15,083	-66.5		334	14,973	-60.5		336	14,522	-49.9		317	14,782	-55.9		325	14,962	-61.0		347	14,784	-56.1	
100	308	16,346	-64.0		267	16,427	-68.5		320	16,356	-61.7		325	15,978	-50.3		312	16,197	-56.8		307	16,341	-62.8		334	16,198	-57.2	
80	271	17,714	-63.2		237	17,766	-67.3		297	17,737	-61.7		305	17,433	-50.8		294	17,610	-57.2		276	17,711	-62.3		315	17,607	-57.5	
60	220	19,490	-61.3		211	19,509	-63.9		259	19,527	-60.1		272	19,297	-51.9		270	19,431	-57.1		228	19,495	-60.3		286	19,423	-57.7	
50	188	20,622	-59.6						223	20,670	-58.9		250	20,477	-52.3		247	20,586	-56.9		201	20,634	-58.9		247	20,583	-57.5	
40													203	21,922	-52.8													

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average annual values

Table 20—Continued

Standard pressure surface (mb.)	GREEN BAY, WIS. (990 MB.)				GREENSBORO, N. C. (986 MB.)				HATTERAS, N. C. (1017 MB.)				HILO, T. H. (1014 MB.)				INTERNAT. FALLS, MINN. (971 MB.)				JACKSONVILLE, FLA. (1018 MB.)				KOTZEBUE, ALASKA (1011 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	365	210	6.5	74	365	273	12.7	76	365	3	16.5	80	364	9	23.6	75	364	360	2.5	70	351	6	19.5	79	365	5	- 6.0	77
1,000--	365	124			365	155			365	148	16.5	75	364	138	22.0	75	364	119			351	156	19.7	74	365	89	5.8	
950----	365	551	7.2	64	365	591	14.2	58	365	587	14.4	67	364	584	18.4	80	364	539	3.8	65	351	598	17.7	70	365	499	- 4.8	67
900----	365	991	5.0	62	365	1,044	11.8	58	365	1,039	12.2	60	364	1,044	15.0	83	364	975	2.2	65	351	1,058	15.2	67	365	917	- 6.2	67
850----	365	1,456	3.2	60	365	1,521	9.3	57	365	1,517	9.8	56	364	1,527	12.0	85	364	1,435	.6	64	351	1,541	12.7	64	365	1,363	- 7.6	65
800----	365	1,946	1.2	56	365	2,022	6.9	56	365	2,018	7.5	53	364	2,034	10.1	73	363	1,921	1.2	61	350	2,048	10.4	57	365	1,833	- 9.5	61
750----	365	2,469	- 1.0	51	365	2,556	4.3		365	2,554	4.9		364	2,579	8.5		362	2,440	- 3.3	56	350	2,588	7.9		365	2,336	-12.0	58
700----	365	3,011	- 3.5	47	365	3,109	1.5		365	3,107	2.1		364	3,138	6.6		361	2,977	- 5.9	53	350	3,149	5.1		365	2,854	-14.7	55
650----	365	3,598	- 6.7	45	365	3,709	- 1.7		365	3,707	- 1.1		364	3,748	3.7		361	3,559	- 9.0	49	347	3,754	1.7		365	3,420	-17.8	
600----	363	4,214	-10.3	44	365	4,336	- 5.1		363	4,336	4.6		364	4,389	.1		360	4,170	-12.5	46	345	4,392	- 1.9		363	4,007	-21.3	
550----	362	4,880	-14.3	41	363	5,019	- 9.2		363	5,020	- 8.7		364	5,081	- 4.0		358	4,831	-16.6	46	344	5,078	- 6.2		362	4,648	-25.2	
500----	362	5,595	-19.0		361	5,747	-13.8		363	5,748	-13.3		364	5,827	- 8.8		356	5,539	-21.4		343	5,818	-11.0		362	5,329	-29.6	
450----	361	6,379	-24.3		359	6,548	-19.1		362	6,551	-18.6		364	6,644	-14.4		355	6,314	-26.8		343	6,625	-16.5		361	6,080	-34.6	
400----	361	7,220	-30.3		358	7,405	-25.1		361	7,410	-24.6		363	7,518	-20.8		350	7,146	-32.8		342	7,494	-22.8		360	6,887	-40.1	
350----	361	8,156	-37.0		358	8,361	-32.1		361	8,368	-31.5		361	8,490	-28.3		343	8,073	-39.3		337	8,458	-30.0		359	7,786	-46.1	
300----	360	9,205	-44.0		351	9,433	-40.0		358	9,441	-39.4		360	9,576	-36.7		338	9,113	-45.9		334	9,536	-38.2		359	8,797	-51.4	
250----	358	10,409	-50.5		350	10,654	-48.6		358	10,663	-48.2		360	10,813	-46.3		336	10,309	-51.5		330	10,764	-47.5		356	9,971	-53.0	
200----	358	11,848	-54.3		343	12,093	-56.1		357	12,105	-56.1		358	12,260	-57.1		326	11,747	-53.6		319	12,205	-56.8		354	11,416	-50.3	
175----	356	12,701	-55.2		340	12,936	-58.6		355	12,947	-58.9		348	13,095	-62.4		315	12,603	-53.9		313	13,045	-60.6		352	12,289	-49.5	
150----	352	13,680	-56.4		336	13,898	-61.0		349	13,908	-61.3		323	14,033	-67.3		298	13,591	-54.5		310	13,994	-64.4		348	13,297	-49.4	
125----	348	14,832	-58.1		324	15,024	-63.2		339	15,032	-63.9		286	15,122	-70.9		272	14,755	-55.5		303	15,099	-67.7		335	14,493	-49.5	
100----	333	16,233	-59.1		309	16,387	-64.7		326	16,391	-65.3						225	16,173	-56.4		282	16,432	-69.5		325	15,951	-49.8	
80-----	313	17,630	-59.2		288	17,746	-63.9		299	17,749	-64.5						206	17,586	-57.0		229	17,764	-68.6		308	17,408	-50.1	
60-----	271	19,428	-58.6		251	19,513	-61.7		268	19,517	-62.1						173	19,410	-57.3		199	19,499	-65.1		282	19,279	-50.8	
50-----	241	20,575	-58.0		233	20,647	-59.9		248	20,648	-60.2						144	20,561	-57.0		189	20,617	-62.4		262	20,466	-51.1	
40-----	202	21,987	-57.0		202	22,052	-57.5		224	22,044	-57.7										172	22,003	-59.0					
30-----					158	23,878	-54.6																					

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1016 MB.)				LANDER, WYO. (827 MB.)				LAS VEGAS, NEV. (936 MB.)				LITTLE ROCK, ARK. (1007 MB.)				MAZATLAN, MEXICO (1010 MB.)				MC GRATH, ALASKA (997 MB.)				MEDFORD, ORE. (970 MB.)			
SURFACE	364	5	19.3	81	365	1,696	6.9	49	365	660	20.0	25	362	79	16.4	70	353	14	24.1	76	365	103	- 1.7	66	364	401	13.3	62
1,000--	364	143	19.9	74	365	97			365	80			362	136	16.9	64	353	96	23.6	75	365	80			364	139		
950----	364	588	18.0	70	365	533			365	529			362	579	15.9	58	353	555	23.5	57	365	490	- 2.4	64	364	577	13.3	55
900----	364	1,047	15.9	64	365	987			365	996	20.4		362	1,032	13.4	59	353	1,017	21.7	53	365	916	- 3.6	65	364	1,026	10.6	55
850----	364	1,531	13.8	59	365	1,467			365	1,485	16.6		362	1,512	11.0	58	353	1,512	19.1		365	1,366	5.6	65	364	1,499	7.3	58
800----	364	2,041	11.7	51	365	1,969	8.1	39	365	1,997	12.5	31	361	2,016	8.8	53	353	2,030	16.0		365	1,839	- 7.9	65	364	1,995	3.9	59
750----	364	2,584	9.3		365	2,502	4.8	39	365	2,538	8.2	34	361	2,555	6.4	46	353	2,584	12.5		365	2,342	-10.4	63	364	2,523	1.0	56
700----	364	3,148	6.3		365	3,057	.7	41	365	3,100	3.9	36	361	3,112	3.6	42	348	3,151	8.8		365	2,866	-13.3	61	364	3,069	- 2.0	49
650----	362	3,756	2.8		365	3,649	- 3.7	44	365	3,700	- .5		356	3,715	.2		341	3,766	4.8		364	3,433	-16.5	58	363	3,659	- 5.5	45
600----	359	4,396	- 1.1		365	4,274	- 8.1	46	364	4,332	- 4.8		356	4,347	- 3.6		339	4,409	.6		364	4,024	-20.0	56	363	4,278	- 9.1	
550----	358	5,086	- 5.4		365	4,943	-12.8	45	364	5,014	- 9.2		354	5,032	- 7.8		331	5,102	- 3.9		361	4,667	-24.0	53	362	4,950	-13.2	
500----	355	5,826	-10.2		365	5,664	-18.0	43	364	5,742	-14.3		353	5,764	-12.6		321	5,848	- 8.7		355	5,352	-28.4		361	5,666	-17.9	
450----	349	6,640	-15.6		365	6,448	-23.6		364	6,540	-20.1		353	6,569	-18.1		315	6,664	-14.0		351	6,107	-33.4		361	6,455	23.3	
400----	345	7,509	-21.7		364	7,294	-29.9		362	7,395	-26.5		348	7,429	-24.3		307	7,541	-20.0		347	6,916	-38.8		360	7,297	-29.4	
350----	339	8,478	-28.9		364	8,231	-36.9		360	8,344	-33.7		344	8,387	-31.3		295	8,517	-27.4		343	7,821	-44.7		360	8,236	-36.4	
300----	333	9,561	-37.1		362	9,278	-44.6		356	9,406	-41.5		344	9,461	-39.2		273	9,608	-35.8		334	8,834	-50.2		359	9,287	-44.0	
250----	329	10,795	-46.3		358	10,477	-51.7		354	10,619	-49.6		343	10,685	-47.9		228	10,850	-45.6		326	10,011	-52.4		359	10,488	-51.5	
200----	322	12,245	-55.6		350	11,905	-56.1		350	12,055	-56.6		334	12,130	-56.0		166	12,304	-56.2		320	11,457	-50.0		358	11,918	-56.3	
175----	315	13,086	-59.6		347	12,752	-56.8		345	12,897	-58.6		327	12,973	-58.6						316	12,330	-49.1		356	12,764	-57.1	
150----	307	14,040	-63.4		341	13,725	-57.8		338	13,860	-60.7		317	13,933	-61.5						310	13,340	49.1		352	13,737	-57.7	
125----	292	15,150	-66.8		334	14,871	-58.9		319	14,987	-63.1		299	15,056	-64.4						299	14,532	-49.5		350	14,883	-59.0	
100----	254	16,486	-69.1		317	16,267	-60.1		284	16,351	-64.6		270	16,411	-66.1						287	15,991	-49.9		343	16,277	-60.0	
80-----	219	17,818	-68.3		291	17,657	-60.1		250	17,713	-63.8		241	17,762	-65.5						267	17,449	-50.4		329	17,669	-60.0	
60-----	170	19,552	-64.3		257	19,453	-59.5		219	19,485	-61.9		206	19,521	-62.5						249	19,322	-51.1		315	19,469	-59.3	
50-----					232	20,598	-58.6		205	20,617	-60.3		189	20,648	-60.7						238	20,506	-51.2		289	20,611	-58.6	
40-----					184	22,003	-57.3						160	22,044	-57.7						210	21,958	-51.5		236	22,022	-57.5	
30-----													120	23,872	-54.4													

Standard pressure surface (mb.)	MERIDA, MEXICO (1012 MB.)				MIAMI, FLA (1017 MB.)				MIDLAND, TEXAS (916 MB.)				NANTUCKET, MASS. (1014 MB.)				NASHVILLE, TENN. (997 MB.)				NOME, ALASKA (1009 MB.)				*NORFOLK, VA. (1017 MB.)			
SURFACE	362	27	25.5	77	365	4	22.9	79	365	871	17.9	43	365	14	8.5	85	364	177	14.7		364	7	- 2.9	78	362	9	15.1	68
1,000--	362	129	25.0	75	365	149	22.8	74	365	102			365	129	9.3	77	364	148			364	77	- 3.4		362	147	14.9	65
950----	362	583	22.9	72	365	595	20.1	73	365	552			365	557	8.6	68	364	585	14.5		364	487	- 3.8	70	362	582	13.2	63
900----	362	1,049	20.2	70	365	1,060	17.2	71	365	1,016	18.9	39	365	1,001	6.7	64	364	1,039	12.0		364	909	- 5.1	68	362	1,034	10.8	60
850----	362	1,540	17.2	70	365	1,546	14.6	64	365	1,505	16.5		365	1,469	4.6	60	364	1,516	9.5	57	364	1,356	6.8	65	362	1,509	8.5	59
800----	362	2,056	14.3	65	365	2,057	12.3	55	365	2,018	13.5		365	1,961	2.5	55	364	2,017	7.2	54	364	1,828	- 8.8	62	361	2,008	6.1	57
750----	362	2,603	11.7	54	365	2,598	9.8		365	2,564	10.0		365	2,486	.1	52	364	2,553	4.7	49	364	2,331	-11.2	59	361	2,540	3.5	54
700----	361	3,174	9.0		365	3,166	6.9		365	3,128	6.3	38	365	3,031	- 2.5	48	364	3,106	1.8	44	364	2,852	-13.9	56	361	3,093	.7	50
650----	358	3,790	5.7		365	3,774	3.5		365	3,736	2.2		365	3,622	- 5.6		362	3,707	- 1.5	41	362	3,418	-17.0	53	360	3,688	- 2.5	
600----	355	4,435	2.0		365	4,417	- .2		364	4,373	- 2.1		364	4,240	- 9.1		361	4,333	- 5.1		361	4,007	-20.6	50	360	4,316	- 6.0	41
550----	350	5,131	- 2.2		363	5,105	- 4.4		362	5,059	- 6.7		362	4,911	-13.0		361	5,016	- 9.2		360	4,650	-24.6		360	4,992	-10.0	
500----	345	5,882	- 6.9		361	5,852	- 9.2		362	5,796	-11.7		360	5,628	-17.5		361	5,742	-13.9		360	5,333	-29.0		360	5,720	-14.7	
450----	341	6,704	-12.3		358	6,666	-14.4		362	6,604	-17.3		359	6,418	-22.7		360	6,544	-19.2		360	6,085	-34.1		360	6,516	-20.0	
400----	340	7,587	-18.4		357	7,543	-20.7		360	7,468	-23.5		359	7,265	-28.6		359	7,400	-25.3		360	6,894	-39.5		359	7,373	-26.1	
350----	337	8,568	-25.8		356	8,516	-28.0		356	8,430	-30.7		359	8,208	-35.2		358	8,355	-32.2		360	7,795	-45.3		359	8,325	-33.1	
300----	332	9,665	-34.4		353	9,603	-36.3		355	9,506	-38.8		358	9,265	-42.4		356	9,425	-39.9		360	8,811	-50.4		356	9,390	-40.9	
250----	316	10,912	-44.2		350	10,841	-45.8		352	10,732	-47.9		357	10,476	-49.6		354	10,646	-48.2		359	9,992	-52.1		352	10,606	-49.4	
200----	298	12,369	-55.4		349	12,293	-55.9		347	12,174	-56.2		355	11,917	-54.9		351	12,089	-55.6		356	11,440	-49.9		330	12,040	-56.6	
175----	291	13,207	-61.3		342	13,133	-60.7		346	13,015	-59.6		354	12,767	-56.4		348	12,935	-58.1		353	12,314	-49.0		310	12,879	-59.0	
150----	268	14,147	-67.5		337	14,079	-65.7		340	13,971	-62.9		351	13,741	-57.9		343	13,899	-60.6		348	13,325	-48.9		286	13,839	-60.9	
125----	239	15,231	-72.9		324	15,174	-70.0		322	15,082	-66.2		347	14,884	-59.6		330	15,027	-63.2		342	14,520	-49.2		234	14,969	-63.0	
100----					293	16,490	-72.7		289	16,424	-68.6		331	16,274	-60.4		310	16,391	-64.6		330	15,984	-49.5		173	16,336	-64.3	
80-----					267	17,800	-71.9		248	17,760	-67.5		307	17,659	-60.1		277	17,754	-63.8		319	17,444	-49.7					
60-----					233	19,510	-67.4		203	19,504	-64.1		285	19,455	-59.1		246	19,523	-61.5		297	19,326	-50.4					
50-----					214	20,617	-63.8		184	20,626	-61.6		272	20,599	-58.1		227	20,656	-59.8		277	20,514	-50.7					
40-----					194	21,998	-59.9		168	22,015	-58.7		240	22,008	-56.6		204	22,058	-57.4		227	21,969	-51.0					
30-----					159	23,814	-55.3																					

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

RADIOSONDE DATA

Average annual values

Table 20—Continued

YEAR 1955

Standard pressure surface (mb)	NORTH PLATTE, NEBR. (916 MB.)				OAKLAND, CALIF. (1016 MB.)				OKLAHOMA CITY, OKLA. (970 MB.)				OMAHA, NEBR. (967 MB.)				PHOENIX, ARIZ. (973 MB.)				PITTSBURGH, PA. (975 MB.)				PORTLAND, ME. (1013 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature *	Relative humidity
SURFACE	364	848	8.4	66	365	6	12.8	75	364	391	14.8	65	364	403	9.9	65	365	341	22.9	37	364	353	10.4	70	363	20	6.0	81
1,000	364	111			365	140	12.8	70	364	125			364	121			365	96			364	144			363	125	7.3	71
950	364	546			365	578	13.5	56	364	564	16.3	55	364	554	11.0	57	365	548	24.2		364	575	10.2	65	363	551	6.5	66
900	364	994	10.4	54	365	1,027	12.8		364	1,022	14.8	52	364	1,002	9.7	55	365	1,016	21.0		364	1,022	7.8	65	363	990	4.4	66
850	364	1,470	9.5	48	365	1,505	10.9		364	1,504	12.6	50	364	1,475	7.8	53	365	1,507	17.1		364	1,491	5.2	64	363	1,454	2.3	65
800	364	1,970	7.0	47	365	2,008	8.2		364	2,011	10.0	46	364	1,974	5.5	53	365	2,020	13.1		364	1,984	2.9	60	363	1,942	.3	60
750	364	2,503	4.0	47	365	2,544	5.1		364	2,550	7.1	43	363	2,506	2.9	50	365	2,563	8.9		364	2,511	.5	55	363	2,463	- 2.0	56
700	364	3,056	.6	46	364	3,097	1.9		364	3,108	3.8		363	3,055	- .2	48	365	3,125	4.9		364	3,056	- 2.1	51	363	3,004	- 4.7	53
650	364	3,651	- 3.3	45	360	3,697	- 1.7		364	3,712	.1		360	3,651	- 3.7	46	363	3,731	.9		363	3,646	- 5.2	47	361	3,589	- 7.7	
600	361	4,275	- 7.5		360	4,324	- 5.7		364	4,343	- 3.8		358	4,273	- 7.6	43	363	4,364	- 3.3		363	4,266	- 8.7		360	4,202	-11.2	
550	361	4,947	-12.1		358	5,002	-10.3		364	5,027	- 8.1		357	4,947	-12.1	40	363	5,050	- 7.7		363	4,938	-12.8		356	4,868	-15.2	
500	361	5,669	-17.0		358	5,727	-15.4		363	5,758	-13.0		356	5,667	-17.0		362	5,781	-12.6		363	5,656	-17.5		354	5,580	-19.8	
450	361	6,458	-22.5		356	6,524	-21.1		362	6,562	-18.6		355	6,459	-22.5		361	6,586	-18.2		363	6,443	-22.8		352	6,360	-25.1	
400	357	7,305	-28.7		354	7,373	-27.4		362	7,420	-24.8		351	7,303	-28.7		361	7,446	-24.6		363	7,290	-28.8		350	7,200	-30.9	
350	355	8,247	-35.7		353	8,319	-34.7		361	8,376	31.9		347	8,246	-35.6		360	8,403	-31.7		362	8,232	-35.6		347	8,134	-37.2	
300	354	9,301	-43.1		349	9,377	-42.7		360	9,446	-40.0		347	9,301	-43.0		359	9,474	-39.6		360	9,287	-43.0		342	9,183	-43.9	
250	349	10,509	-50.3		344	10,588	-50.9		358	10,667	-48.5		339	10,507	-50.3		355	10,697	-48.3		357	10,494	-50.3		335	10,387	-50.1	
200	346	11,944	-55.7		333	12,017	-56.9		351	12,104	-55.9		330	11,943	-55.3		351	12,139	-55.9		345	11,931	-55.9		326	11,828	-54.2	
175	345	12,791	-57.1		331	12,858	-58.5		346	12,949	-58.4		326	12,791	-56.7		350	12,984	-58.7		338	12,777	-57.5		318	12,678	-55.2	
150	338	13,762	-58.5		329	13,823	-60.1		341	13,911	-61.1		321	13,764	-58.2		342	13,944	-61.6		323	13,742	-59.1		309	13,658	-56.4	
125	329	14,900	-60.6		310	14,957	-62.0		333	15,033	-63.9		313	14,905	-60.3		325	15,064	-64.7		281	14,875	-60.9		299	14,812	-57.7	
100	313	16,285	-61.6						309	16,389	-65.7		294	16,290	-61.6		307	16,419	-66.3		222	16,249	-61.9		274	16,216	-58.7	
80	288	17,665	-61.5						279	17,743	-64.6		276	17,671	61.4		285	17,773	-65.3		167	17,623	-61.5		258	17,612	-58.8	
60	248	19,452	-60.3						239	19,509	-62.0		243	19,461	-60.2		244	19,530	-62.8						224	19,413	-58.5	
50	214	20,593	-59.1						216	20,639	-60.2		214	20,600	-59.2		223	20,658	-60.9						203	20,560	-57.7	
40	190	21,997	-57.6														186	22,056	-58.1						173	21,973	-56.4	

Standard pressure surface (mb)	RAPID CITY, S. DAK. (903 MB.)				ST. CLOUD, MINN. (977 MB.)				ST. PAUL IS., ALASKA (1007 MB.)				SAN ANTONIO, TEX. (987 MB.)				SAN JUAN, P. R. (1014 MB.)				SANTA MARIA, CALIF. (1008 MB.)				S. STE. MARIE, MICH. (989 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	360	966	7.3	61	365	316	5.2	73	364	10	1.7	88	365	243	20.8	59	365	6	24.4	82	365	74	11.7	79	365	221	4.6	80
1,000	360	108			365	120			364	71			365	128			365	142	24.5	77	365	137	11.9	76	365	129		
950	360	539			365	546	6.5	65	364	478	8	85	365	576	19.8	58	365	593	21.6	78	365	574	13.7	60	365	551	5.3	67
900	360	990	6.9		365	986	5.2	63	364	904	- 2.5	81	365	1,038	17.4	59	365	1,059	18.5	77	365	1,025	14.5	41	365	990	3.6	66
850	360	1,462	7.8	51	365	1,452	3.6	60	364	1,356	- 4.2	75	365	1,525	15.0	58	365	1,548	15.6	73	365	1,506	12.5	38	365	1,452	1.4	65
800	360	1,960	5.0	52	365	1,942	1.7	55	364	1,832	- 6.1	67	365	2,036	12.9	52	365	2,061	13.1	63	365	2,011	9.7	35	365	1,938	- .7	60
750	360	2,487	1.9	54	365	2,466	- .6	51	364	2,343	- 8.5	62	365	2,581	10.2	45	365	2,607	11.0		364	2,551	6.9		365	2,456	- 2.9	57
700	360	3,037	- 1.5	53	365	3,010	3.4	49	364	2,868	-11.3	58	365	3,147	7.1		365	3,175	8.3		364	3,108	3.6		365	2,996	- 5.5	53
650	359	3,626	- 5.4	51	365	3,597	- 6.6	48	364	3,443	-14.4	54	365	3,756	3.4		365	3,790	5.0		363	3,711			365	3,579	- 8.5	49
600	358	4,247	- 9.6	50	365	4,214	-10.3	45	364	4,036	-17.9		364	4,398	- .7		364	4,434	1.4		363	4,343	- 3.9		361	4,191	-11.9	
550	356	4,913	-14.1	48	364	4,880	-14.6	44	363	4,689	-21.8	49	362	5,088	- 5.2		362	5,129	- 2.6		363	5,025	- 8.4		361	4,853	-16.0	44
500	355	5,630	-19.1		363	5,593	-19.3		363	5,377	-26.1		361	5,829	-10.2		362	5,879	- 7.2		363	5,756	-13.4		358	5,564	-20.4	
450	354	6,411	-24.6		361	6,376	-24.6		363	6,142	-31.2		360	6,640	-15.7		361	6,700	-12.6		363	6,558	-19.1		351	6,342	-25.7	
400	353	7,253	-30.8		360	7,216	-30.6		362	6,958	-36.6		359	7,511	-22.0		361	7,581	-18.8		362	7,415	-25.7		344	7,180	-31.6	
350	352	8,186	-37.7		358	8,151	-37.4		362	7,870	-42.7		351	8,477	-29.2		361	8,561	-26.1		362	8,368	-33.0		326	8,117	-38.1	
300	348	9,229	-45.1		358	9,198	-44.5		361	8,896	-48.4		351	9,559	-37.5		360	9,657	-34.4		359	9,435	-41.0		303	9,166	-44.7	
250	343	10,426	-51.8		358	10,401	-50.6		356	10,087	-51.5		349	10,789	-47.0		360	10,905	-44.1		357	10,651	-49.4					
200	336	11,856	-55.8		356	11,841	-54.2		342	11,539	-50.5		345	12,234	-56.3		358	12,366	-55.2		354	12,089	-56.5					
175	329	12,704	-56.5		354	12,696	-54.8		340	12,410	-50.2		338	13,075	-60.3		358	13,206	-61.4		350	12,930	-58.6					
150	311	13,677	-57.5		349	13,678	-55.8		334	13,416	-50.1		331	14,024	-64.2		356	14,147	-67.7		340	13,893	-60.7					
125	272	14,829	-58.6		349	14,834	-57.3		323	14,605	-50.4		319	15,127	-68.3		346	15,228	-73.1		321	15,021	-63.3					
100					334	16,242	-58.3		314	16,059	-50.7		296	16,454	-70.7		308	16,521	-76.4		304	16,384	-64.8					
80					320	17,644	-58.4		301	17,511	-50.8		250	17,776	-69.7		270	17,807	-75.1		280	17,748	-63.9					
60					287	19,455	-58.1						206	19,501	-65.6		241	19,502	-68.2		250	19,517	-61.9					
50					254	20,606	-57.7						193	20,614	-62.7		227	20,608	-63.9		228	20,647	-60.3					
40					218	22,022	-56.6						174	22,004	-59.1		213	21,989	-59.8		190	22,046	-58.0					
30																	183	23,805	-55.3									

Standard pressure surface (mb)	SPOKANE, WASH. (931 MB.)				TAMPA, FLA. (1017 MB.)				TATOOSH ISLAND, WASH. (1013 MB.)				WASHINGTON, D. C. (1007 MB.)				YAKUTAT, ALASKA (1010 MB.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
SURFACE	363	722	8.3	61	365	7	20.0	83	364	31	8.2	85	365	88	12.1	69	365	12	4.2	82
1,000	363	125			365	156	21.1	76	364	137	8.1	79	365	148	12.7	64	365	89	4.0	
950	363	558			365	603	19.2	69	364	563	6.5	74	365	584	11.7	61	365	507	2.3	75
900	363	1,001	7.5	56	365	1,064	16.7	67	364	1,002	4.4	71	365	1,030	9.2	62	365	940	- .3	74
850	363	1,469	4.5	57	365	1,549	14.1	62	364	1,465	2.2	67	365	1,502	6.9	60	365	1,395	- 2.9	72
800	363	1,960	1.1	60	365	2,059	11.9	54	364	1,953	- .2	61	365	1,999	4.7	56	365	1,873	- 5.6	70
750	363	2,483	- 2.3	60	365	2,606	9.5		364	2,471	- 2.9	55	365	2,530	2.2	52	365	2,382	- 8.4	66
700	363	3,021	- 5.6	58	365	3,167	6.6		363	3,011	- 5.8	50	364	3,077	- .7	49	365	2,909	-11.4	62
650	363	3,607	- 9.0		365	3,778	3.2		362	3,591	- 9.2	49	362	3,673	- 3.6	45	365	3,481	-14.7	57
600	362	4,214	-12.7		365	4,417	- .5		361	4,203	-12.8	48	360	4,295	7.2		365	4,076	-18.3	54
550	362	4,877	-16.9		365	5,110	- 4.7		360	4,863	-16.9	45	359	4,971	-11.3		363	4,725	-22.4	51
500	362	5,581	-21.7		361	5,851	- 9.4		358	5,571	-21.6	44	359	5,692	-16.0		362	5,414	-26.9	
450	360	6,356	-27.0		360	6,669	-14.9		357	6,344	-26.9	43	359	6,487	-21.2		361	6,173	-32.0	
400	360	7,188	-32.9		359	7,539	-21.1		357	7,179	-32.8		357	7,337	-27.2		361	6,988	-37.7	
350	359	8,113	-39.5		354	8,510	-28.4		355	8,105	-39.2		355	8,284	-34.1		361	7,896	-43.8	
300	355	9,153	-46.2		353	9,596	-36.7		352	9,144	-45.8		353	9,345	-41.6		358	8,917	-49.4	
250	354	10,347	-52.1		349	10,832	-46.3		349	10,341	-51.7		353	10,557	-49.6		354	10,099	-52.2	
200	349	11,781	-54.3		349	12,281	-56.2		337	11,778	-53.9		346	11,993	-55.9		347	11,543	-50.7	
175	344	12,636	-54.1		346	13,120	-60.6		328	12,634	-53.6		344	12,839	-57.8		338	12,412	-50.0	
150	333	13,625	-54.6		340	14,068	-65.0		323	13,623	-53.8		340	13,806	-59.6		325	13,420	-50.3	
125	303	14,793	-56.0		333	15,168	-68.9		312	14,789	-54.7		327	14,938	-61.5		306	14,604	-50.5	
100					307	16,492	-71.3		292	16,209	-55.8		304	16,315	-62.6		283	16,060	-50.7	
80					278	17,811	-70.5		280	17,628	-56.0		277	17,689	-62.1		259	17,505	-51.4	
60					233	19,531	-66.0		250	19,457	-55.7		250	19,469	-60.5					
50					210	20,641	-63.1		234	20,621	-55.6		241	20,607	-59.1					
40									204	22,045	-55.3		223	22,009	-56.8					
30													189	23,841	-54.1					

* Combined records of the U.S. Navy and the U.S. Weather Bureau; U.S. Navy records prior to November 15, 1955

Note: All observations scheduled at 0300, G.C.T. except at Mazatlan, Merida and Veracruz, where they are taken near 0200, G.C.T. "Number of observations" refers to those of dynamic height only. Temperature and humidity data may be missing for one or more pressure surfaces of some observations. The temperature values are based on 15 or more observations at the surface or 5 observations at a standard pressure level. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by radiosondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees centigrade and relative humidity in percent.

PILOT BALLOON DATA

Table 21

Average annual resultant winds

YEAR 1955

Altitude (meters) m. s. l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (505 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			* Buffalo, N.Y. (182 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			El Paso, Tex. (1,198 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed	No of observations	Direction	Speed
Surface	363	194	2.2	365	238	1.8	340	283	1.8	351	287	1.6	356	316	1.5	352	125	4.9	363	248	2.5	345	280	1.0	356	196	1.7	346	236	1.7	365	244	2.2
500	---	---	----	---	---	----	---	---	----	---	---	----	---	---	----	344	143	5.1	352	254	4.2	345	261	2.2	348	219	1.8	346	238	2.4	---	---	----
1,000	356	194	3.0	---	---	----	---	---	----	332	274	2.1	355	315	1.5	295	159	4.5	350	265	6.1	292	280	3.6	332	260	2.9	315	244	3.4	365	245	2.4
1,500	347	214	3.3	---	---	----	340	267	3.8	298	266	3.2	355	284	1.9	251	175	2.9	351	272	7.4	250	284	5.3	306	279	4.8	277	265	4.5	364	246	2.9
2,000	328	237	4.2	364	240	2.7	328	271	4.8	269	269	4.9	346	272	3.1	208	198	2.0	350	279	8.2	190	285	7.0	275	283	6.3	249	272	5.7	357	252	4.1
2,500	312	249	5.7	356	254	3.4	309	272	6.5	245	273	6.6	325	266	4.3	159	207	1.3	351	282	9.4				250	284	7.6	209	280	7.0	348	258	5.6
3,000	295	257	7.1	349	263	4.6	277	271	8.0	231	278	8.1	303	264	5.6	150	230	1.5	350	284	10.4				237	285	8.4	165	285	7.6	326	263	7.6
4,000	261	263	10.1	325	274	7.4	221	276	10.1	206	280	10.0	276	262	7.5	122	268	2.5	346	286	12.8				195	282	9.8				301	265	9.9
5,000	225	269	11.1	294	274	10.5	180	279	12.3	175	280	11.5	252	260	8.8				343	286	15.1				150	283	12.1				270	263	11.2
6,000	191	272	13.5	271	274	12.6	152	278	13.5										334	286	16.8										231	266	14.1
8,000				207	271	15.6													321	285	20.8										174	270	16.9
10,000																			289	281	22.1												
12,000																			258	282	20.8												

	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Green Bay, Wis. (210 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Little Rock, Ark. (88 m.)			Medford, Ore. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (182 m.)		
Surface	360	209	1.7	364	258	2.3	352	253	1.7	346	276	0.8	351	277	2.0	352	84	1.5	349	173	0.9	344	305	1.3	354	106	2.9	344	197	1.2	341	268	1.0
500	---	---	----	---	---	----	351	252	2.6	346	266	1.6	---	---	----	345	153	.8	349	220	1.3	342	305	1.5	352	112	2.9	336	221	1.6	341	240	1.7
1,000	---	---	----	---	---	----	328	260	3.9	337	268	2.9	351	267	3.6	334	232	1.8	322	239	2.4	339	286	1.5	342	112	1.4	300	275	2.1	323	246	2.5
1,500	---	---	----	364	258	2.3	275	267	5.7	323	278	4.7	330	268	5.4	308	259	3.3	284	260	3.8	323	253	2.0	319	327	.3	252	292	3.3	296	261	3.5
2,000	360	214	1.8	362	253	2.4	241	276	6.6	297	284	6.4	298	265	6.4	271	273	4.7	248	274	5.6	298	247	2.7	297	282	1.1	217	294	4.1	272	271	4.8
2,500	358	232	2.5	351	238	3.2	213	284	7.8	273	288	8.2	269	264	7.7	243	279	5.6	224	279	7.3	287	252	3.4	276	282	1.7	175	290	5.7	239	275	6.6
3,000	341	248	3.2	339	244	4.5	206	288	8.8	255	287	9.7	239	264	8.9	225	279	6.1	199	280	9.2	262	271	4.3	266	280	2.4	147	285	6.8	222	277	7.6
4,000	311	261	5.3	297	262	5.8	174	296	10.9	218	287	11.4	179	268	10.1	186	282	7.5				244	280	7.0	212	271	3.4				194	283	9.8
5,000	283	273	8.2	267	275	8.4				171	290	12.3				134	286	8.2				226	278	8.1							143	284	11.3
6,000	247	275	10.7	241	278	10.1																											
8,000	169	281	12.1	182	282	12.4																											

	** Oakland, Calif. (8 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (345 m.)			Rapid City, S. Dak. (982 m.)			St. Cloud, Minn. (318 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			* Sault Ste. Marie, Mich. (221 m.)			Spokane, Wash. (725 m.)			† Washington, D. C. (88 m.)		
Surface	360	268	3.1	353	221	0.7	364	242	1.1	354	341	0.9	342	244	1.2	358	150	2.1	357	272	3.3	365	270	1.6	324	219	2.4	365	274	1.2
500	360	285	2.2	353	218	.9	364	240	1.3	---	---	----	342	246	1.5	358	149	2.5	344	285	2.5	365	279	2.2	---	---	----	365	270	2.7
1,000	360	289	2.1	337	225	2.2	363	234	1.6	354	337	1.0	312	246	2.9	349	157	2.6	318	293	.9	365	270	4.0	323	221	3.5	365	275	4.4
1,500	359	283	2.5	315	242	3.7	360	222	1.7	345	300	2.5	280	258	4.5	331	176	2.3	297	277	.5	365	274	5.3	304	232	4.5	363	280	6.1
2,000	359	283	3.1	293	258	5.7	358	228	2.2	319	282	4.1	262	268	6.0	306	215	2.5	290	280	.9	365	277	6.4	255	244	4.8	363	286	8.1
2,500	358	283	3.7	280	266	7.3	354	236	2.9	296	279	6.1	240	273	7.3	276	244	3.1	280	284	1.6	365	281	7.7	215	248	5.2	363	285	9.5
3,000	358	282	4.6	264	271	8.8	347	244	3.8	279	279	7.9	223	280	8.6	262	256	4.3	273	281	2.5	365	283	9.1	192	254	6.0	363	283	10.8
4,000	357	282	6.8	237	277	10.7	325	255	5.6	234	279	10.4	203	289	11.0	215	266	7.1	252	270	4.4	364	282	11.4	155	266	8.5	361	282	13.0
5,000	355	281	8.8	205	279	12.5	310	260	7.1	185	284	12.4	167	293	12.2	167	269	8.6	239	268	5.3	362	285	13.3				361	280	15.1
6,000	354	282	10.1	185	281	14.0	280	266	8.9	149	280	13.1	146	293	14.2				225	266	6.8	358	284	15.1				359	278	17.8
8,000	349	281	13.0				209	266	10.4													341	284	19.3				354	275	22.8
10,000	338	279	16.0																			308	282	21.4				336	275	26.0
12,000	333	270	18.1																									309	276	25.3
14,000	326	265	16.3																									288	274	20.9
16,000	311	265	11.0																									260	279	14.5

** Rawin Data (Cont'd.)
18,000 m., 304 obs., 265 dir., 6.4 speed
20,000 m., 285 obs., 267 dir., 2.2 speed
22,000 m., 253 obs., 23 dir., .5 speed
24,000 m., 211 obs., 64 dir., 1.1 speed

† Rawin Data (Cont'd.)
18,000 m., 239 obs., 275 dir., 8.3 speed
20,000 m., 217 obs., 284 dir., 2.9 speed
22,000 m., 198 obs., 255 dir., 2.3 speed

* Rawin Data

These free-air resultant winds are based on pilot balloon observations made near 2100 G. C. T; directions in degrees from North (N = 360°, E = 90°, S = 180°, W – 270°); speeds in meters per second.

RAWIN DATA

Table 22

Average annual resultant winds

YEAR 1955

Altitude (meters) m. s. l.	Albuquerque, N. Mex (1,636 m.)			Anchorage, Alaska (30 m.)			Annette, Alaska (37 m.)			Barrow, Alaska (8 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (182 m.)			Burrwood, La. (3 m.)			Caribou, Me. (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)		
	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed	No. of observations	Direction	Speed
Surface	365	119	0 7	363	242	0.6	341	149	1.7	363	53	2.0	364	34	0.9	365	117	3.1	357	234	1.4	364	95	0.9	365	277	1.6	363	190	0.7	365	153	0.9
500	---	--	----	355	78	1.1	339	167	2.8	354	78	2.5	- -	- -	----	358	140	6.7	343	258	4.1	361	142	1.5	360	288	3.2	359	219	2.8	364	187	2.4
1,000	---	-	- -	353	114	2.3	329	182	3.1	349	78	1.8	358	302	1.6	357	148	6.1	342	270	5.9	356	175	1.1	359	300	4.4	354	247	3.1	364	228	3.9
1,500	--	-	----	350	130	2.9	323	202	3.0	346	77	.8	352	287	3.8	358	154	4.1	342	276	6.9	353	224	1.1	357	303	5.2	355	266	4.1	364	251	5.2
2,000	364	256	2.3	350	149	3.3	320	222	3.4	346	43	.1	347	286	5.7	357	165	2.6	344	279	7.6	347	249	1.7	354	299	5.9	352	272	5.2	365	265	6.4
2,500	363	264	4.3	350	166	3.4	316	242	3.9	346	266	.8	341	284	7.0	357	192	2.1	345	282	8.7	345	260	2.9	353	294	7.0	347	272	6.2	365	271	7.6
3,000	360	266	5.5	350	181	3 5	308	255	4.7	341	262	1.5	332	283	8.2	360	224	2.3	345	284	9.5	344	259	4.1	350	290	7.6	339	273	7.0	364	273	8.7
4,000	348	272	6.7	346	200	4.0	294	265	5.8	335	259	2.7	325	279	10.3	359	250	3.7	343	284	11.8	332	266	5.9	339	285	9.4	328	273	8.8	362	276	10.5
5,000	332	276	8.3	331	214	4 7	270	274	6.7	332	253	4.0	310	276	11.4	359	259	5.5	340	287	13.5	323	269	7.8	332	281	11.1	297	275	9.3	362	275	12.4
6,000	299	276	9.9	318	224	5.4	243	272	7.4	329	253	5.1	291	277	12.9	349	260	6.9	332	287	15.7	306	270	9.0	313	281	12.4	272	283	9.7	362	272	14.9
8,000	232	275	9.9	293	233	6 4	173	279	6.7	308	250	6.3	229	268	15.7	332	263	9.6	310	285	19.3	271	273	11.0	277	278	14.1	221	281	10.3	358	272	20.0
10,000				254	240	7.5				291	245	6.9	157	265	15.2	284	263	11.1	276	281	21.9	224	279	11.6	234	279	17.8	193	285	11.3	348	271	25.3
12,000				223	242	7.4				273	246	6.9							241	282	21.1				192	278	18.3				339	271	26.9
14,000				202	245	6.3				262	242	6.8							188	288	16.5										321	272	22.0
16,000										235	240	6.5																			293	274	15.2
18,000										224	240	6.4																			262	274	7.5
20,000																															204	286	1.8

	Fairbanks, Alaska (135 m.)			Ft. Huachuca, Ariz. (1,428 m.)			Grand Junction, Colo. (1,473 m.)			Greensboro, N. C. (275 m.)			Hatteras, N. C. (3 m.)			Int. Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Medford, Ore. (401 m.)			Miami, Fla. (4 m.)			Midland, Tex. (871 m.)			Nantucket, Mass. (14 m.)		
Surface	363	262	0.6	341	232	2.0	364	37	0.4	363	278	0.3	357	252	1.0	361	243	0.4	364	158	0.8	363	325	1.8	365	76	1.3	364	139	1.7	354	283	1.5
500	349	217	.4	---	---	----	---	---	----	358	243	1.6	341	266	2.9	360	236	1.2	358	197	2.4	354	322	2.2	365	100	2.9	---	---	----	342	287	5.3
1,000	349	207	1.1	---	---	----	---	---	----	358	263	3.2	338	272	4.0	360	258	2.6	356	227	3.4	354	302	2.6	365	106	2.7	362	157	2.8	340	291	5.9
1,500	351	221	2.2	336	240	2.4	358	33	4	354	274	4.1	336	276	5.1	360	270	3.9	353	251	4.0	357	269	2.8	365	117	1.4	362	187	4.3	335	290	6.7
2,000	351	222	3.0	334	252	3.2	357	237	1.9	352	277	5.2	330	278	6.1	360	281	5.0	341	266	4.7	357	260	3.7	364	164	.5	362	217	4.2	333	285	7.9
2,500	351	223	3.7	335	244	3.1	355	232	3.6	351	276	6.3	327	280	7.2	360	285	6.3	336	275	5.9	355	263	4.7	364	236	.9	361	240	4.6	331	280	9.1
3,000	350	230	4.1	336	238	3 3	358	243	5.0	350	276	7.4	324	280	8.3	357	286	7.5	330	278	7.1	353	272	5.6	364	264	1.5	360	254	5.4	324	281	10.1
4,000	345	230	4.7	336	247	4.4	357	258	6.7	342	275	9.3	309	279	10.2	355	285	9.5	308	277	8.7	346	281	7.7	364	267	3.1	354	272	7.2	298	278	11.4
5,000	334	228	5.4	326	250	6.5	348	271	8.5	333	276	10.6	285	280	10.7	350	282	11.5	293	278	10.2	328	283	9.6	361	274	4.6	344	274	8.8	263	282	11.7
6,000	318	226	6.0	318	253	9.3	325	277	10 4	315	277	11.7	245	282	9.8	345	283	13.4	268	281	10.8	308	281	10.8	357	277	6.1	327	270	10.3	223	280	11.9
8,000	287	238	6.8	294	255	13.8	253	277	12.2	258	279	13.2				330	280	17.8				241	274	12.0	350	278	9.3	294	269	12.5			
10,000	242	230	6.6	258	254	17.9	178	273	12.0							322	277	21.5							332	281	12.0						
12,000	215	234	6 9	214	253	21.1										304	278	21.3							297	284	14.1						
14,000	198	239	6.5													267	277	18.5							256	285	11.8						
16,000																203	278	14.2							216	298	6.4						
18,000																164	284	10.3							160	64	2.6						

	Nashville, Tenn. (180 m.)			Nome, Alaska (7 m.)			Oakland, Calif. (8 m.)			Oklahoma City, Okla. (392 m.)			Rapid City, S. Dak. (980 m.)			St. Cloud, Minn. (318 m.)			St. Paul Is., Alaska (10 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			Santa Maria, Calif. (72 m.)			Sault Ste. Marie, Mich. (221 m.)		
Surface	359	208	0.5	360	78	0.8	364	278	2.4	364	144	2.3	365	350	1.7	363	240	0.1	326	353	1.3	365	126	2.4	365	95	2.3	365	297	2.0	361	296	0.4
500	350	220	2.0	345	112	1.3	362	289	3.2	357	154	3.3	---	---	----	361	206	.7	302	283	.9	364	126	5.1	361	89	6.3	363	343	2.9	361	275	1.4
1,000	347	237	3.7	344	136	1.1	362	290	3.3	348	189	4.5	363	348	1.7	357	250	2.9	298	262	2.0	364	148	4.8	360	92	6.3	362	345	3.3	361	273	3.6
1,500	341	252	4.6	345	164	.9	362	291	2.9	339	223	4.4	363	304	3.2	355	267	4.4	295	264	2.6	364	175	3.4	362	88	5.6	360	357	3.1	360	280	5.1
2,000	338	265	5 6	345	199	1.3	362	293	3.0	341	252	5.1	363	289	4.4	348	274	5.4	295	265	3.3	364	216	3.1	363	86	5.1	360	348	2.8	360	283	5.9
2,500	339	271	6.7	342	209	1.9	362	294	3.6	348	265	6.3	362	284	5.9	347	279	6.7	294	266	3.6	363	246	4.0	362	86	4.5	360	322	3.2	360	285	7.1
3,000	338	275	7 3	341	220	1.9	363	293	4 4	350	268	7.4	362	283	7.5	345	281	7.7	295	262	4.2	362	256	4.9	358	85	3.9	356	306	4.1	360	287	8.3
4,000	325	279	8.8	331	230	2.8	357	292	6.2	345	272	8.8	355	281	9.9	338	282	9.2	289	258	5.5	360	261	7.0	354	83	2.5	348	293	5.5	358	285	10.4
5,000	300	280	9 6	322	242	3.3	355	290	8.2	339	274	10.5	339	280	11.7	336	280	10.8	272	254	6.5	352	264	8.3	353	80	1.6	336	285	6.2	355	286	12.3
6,000	270	278	10 6	313	236	4.5	351	289	9.8	327	272	11.8	324	277	13.1	321	278	11.7	263	248	7.6	345	265	9.8	353	50	.7	320	281	7.3	347	286	14.7
8,000				284	232	5 4	344	286	13.2	279	274	13.2	294	270	15.7	282	275	12.1	240	249	9.4	317	266	13.1	347	282	2.9	285	275	8.6	307	284	19.0
10,000				239	241	7.7	333	282	16.2	233	275	14.5	281	268	17.6	247	271	14.8	207	241	12.1	267	270	14.7	345	273	8.9	246	262	11.4			
12,000				193	240	6.9	327	272	17.5				268	264	19.7	219	273	14.1	169	239	10.4				338	268	12.7	231	255	13.0			
14,000							317	268	15.1				232	263	15.8	200	273	13.1							330	275	11.8	215	257	11.8			
16,000							287	264	10.2							191	272	8.7							286	284	4.3	190	260	8.7			
18,000																189	283	5.0							238	78	3.4	170	278	4.1			
20,000																167	287	2.9							210	89	5.6	154	16	.9			
22,000																									190	90	6.6						

	Spokane, Wash. (726 m.)			Tatoosh Is., Wash. (31 m.)			Washington, D. C. (88 m.)			Yakutat, Alaska (12 m.)		
Surface	364	203	1.5	362	195	1.8	365	246	0.8	353	119	2.3
500	---	--	----	345	235	3.2	364	266	3.5	344	130	4.3
1,000	363	221	3.4	344	240	3.9	363	281	5.3	331	144	4.0
1,500	362	241	5.1	345	247	4.5	362	285	6.2	323	159	3.3
2,000	356	251	5.6	348	258	5.4	362	288	7.2	322	174	2.6
2,500	354	258	6.4	351	264	6.5	360	286	8.1	323	195	2.5
3,000	354	265	7.0	353	268	7.9	357	281	9.1	322	213	2.7
4,000	353	268	9.0	350	273	10 0	357	279	11.5	322	241	3.7
5,000	350	271	11.0	345	274	12.3	351	277	13.7	319	255	4.7
6,000	347	273	12.9	337	276	14.1	350	277	16.6	319	262	6.1
8,000	324	278	14.8	314	276	18.3	341	275	21.5	290	268	7.8
10,000	295	280	17.3	283	275	20 6	322	276	25.2	261	272	9.8
12,000	280	277	16.7	263	274	19.4	306	278	25.6	233	270	9.3
14,000	250	272	13.2	249	271	15.0	298	281	22.0	203	267	8.2
16,000				238	272	10.6	271	279	15.3			
18,000				225	270	6.2	244	279	8.6			
20,000				188	283	1.9	213	279	3.7			

These free-air resultant winds are based on rawin observations made near 0300 G. C. T.; directions in degrees from north (N = 360°, E = 90°, S = 180°, W = 270°); speeds in meters per second. **Annual values are not computed for any level having less than 10 monthly values or having more than 1 monthly value missing in a single season.**

SOLAR RADIATION DATA

Table 30

Average daily values (direct and diffuse) received on a horizontal surface, tabulated in langleys

YEAR 1955

Station	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Aklavik, MacKenzie 1/	7	52	205	399	560	500	479	302	194	63	12	2	231
Albrook Air Base, Panama, C.Z.	400	486	550	518	416	420	391	398	490	398	397		
Albuquerque, N. Mex.	306	422	538	644	653	782	673	635	603	486	352	289	532
Annette, Alaska	42	100	234	415	471	509	447	289	266	97	88	53	251
Apalachicola, Fla.	276	399	521	578	634	612	509	538	479	464	336	241	466
Astoria, Ore.	95	181	268	375	478	449	442	539	342	169	97	79	293
Atlanta, Ga.	217	277	374	509	525	584	497	529	362	355	286	194	392
Barrow, Alaska 2/	5	48	174	373	527	514	488	307	136	49	4		
Bethel, Alaska	34	117	266	450	444	339	325	280	170	121	49	20	218
Bismarck, N. Dak.	146	250	368	407	548	576	581	541	394	312	179	146	371
Blue Hill, Mass.	161	198	296	313	541	457	524	437	383	226	146	152	320
Boise, Idaho	158	253	350	413	601	672	632	617	465	301	137	93	391
Boston, Mass.	211	192	313	311	520	432	522	408	333	215	126	126	309
Brownsville, Tex.	297	324	474	450	562	641	584	562	426	458	265	228	439
Canton Island, Pacific Area	527	680	614	613	569	541	553	598	652	665	653	622	607
Caribou, Me.	142	207	356	498	498	515	552	455	317	230	110	130	327
Charleston, S. C.	258	328	442	485	557	584	538	506	306	408	328	223	414
Cleveland, Ohio	---	---	464	490	633		653	518	456	273	153	151	--
Columbia, Mo.	175	253	404	495	511	539	594	556	445	326	245	182	394
Columbus, Ohio	157	210	306	436	536	549	499	399	387	265	174	155	339
Davis, Calif.	153	290	441	495	670	734	733	641	520	313	167	98	438
Dodge City, Kans.	302	---	490	590	617	624	751	692	500	432	307	249	--
East Lansing, Mich.	133	224	360	459	527	546	583	482	419	255	119	120	352
East Wareham, Mass.	171	210	312	337	562	518	582	486	427	284	178	181	354
Edmonton, Alberta	96	180	321	396	526	630	509	528	306	194	129	75	324
El Paso, Tex.	329	477	550	664	702	750	631	623	586	467	394	324	541
Ely, Nev.	---	369	509	561	567	700	700	571	557	413	275	204	---
Fairbanks, Alaska	15	72	207	399	453	472	485	338	180	76	34	5	228
Ft. Huachuca, Ariz	353	477	---	---	--	-	--	-	---	---	---	---	--
Ft. Worth, Tex.	245	306	415	479	555	621	641	561	503	451	333	260	448
Fresno, Calif.	150	326	482	545	642	750	732	638	554	413	266	145	470
Gainesville, Fla.	257	330	426	492	533	534	524	537	466	407	310	222	420
Glasgow, Mont.	---	---	--	--	---	622	629	600	412	309	162	118	--
Grandby, Colo.	---	---	--	---	---	530	--	514	---	420	231	228	--
Grand Junction, Colo.	240	360	482	583	631	748	746	636	558	412	248	186	486
Grand Lake, Colo.	--	---	---	--	521	--	574	396	538	--	---	-	--
Great Falls, Mont.	142	230	392	453	480	626	554	617	379	261	142	127	367
Greensboro, N. C.	205	278	309	---	512	590	512	451	314	270	251	200	---
Griffin, Ga.	257	---	409	547	563	609	536	531	384	399	321	224	--
Hatteras, N. C.	244	340	464	556	657	658	694	587	423	465	332	233	471
Indianapolis, Ind.	157	225	359	423	500	492	527	518	408	274	173	142	350
Inyokern, Calif.	303	439	606	729	799	847	803	714	651	510	385	274	588
Ithaca, N. Y.	153	239	274	382	514	550	625	461	404	246	117	98	339
Lake Charles, La.	232	334	455	474	583	630	470	485	447	468	303	252	428
Lander, Wyo.	222	321	492	602	648	661	732	574	507	414	259	207	470
Las Vegas, Nev.	288	416	559	655	721	762	709	588	589	447	324	236	525
Lemont, Ill.	169	194	378	432	526	538	565	558	439	281	185	132	366
Lexington, Ky.	---	---	---	522	616	---	574	602	--	376	262	207	---
Lincoln, Nebr.	179	210	373	489	542	496	624	588	---	-	-		-
Little Rock, Ark.	206	233	332	464	504	538	549	490	428	365	238	172	377
Los Angeles, Calif. (WBAS)	263	377	478	592	539	544	601	577	484	304	274	179	434
Los Angeles, Calif. (WBCO)	250	359	462	562	498	537	622	601	493	332	276	186	432
Madison, Wis.	153	226	384	432	542	523	567	512	408	243	146	121	355
Matanuska, Alaska	29	82	226	391	403	407	540	288	--	77	59	19	---
Medford, Ore.	138	237	345	416	653	692	664	631	433	272	152	101	395
Miami, Fla.	368	398	545	567	570	506	488	514	495	421	369	294	461
Midland, Tex.	256	397	499	572	583	635	548	554	522	477	353	306	475
Nashville, Tenn.	194	237	347	440	509	544	530	498	441	327	236	191	375
Newport, R. I.	193	238	344	325	552	513	545	440	397	260	169	158	345
New York, N. Y.	195	225	331	361	601	505	544	453	383	241	191	144	348
Oak Ridge, Tenn.	196	250	335	475	547	524	551	548	448	345	248	190	388
Oklahoma City, Okla.	241	345	447	533	581	---	---	-	---	428	324	245	--
Ottawa, Ontario	175	214	331	385	500	593	588	475	414	214	135	120	345
Phoenix, Ariz.	289	455	577	691	749	801	712	630	617	494	363	305	557
Portland, Me.	176	220	335	359	500	483	572	434	403	233	142	160	335
Prosser 4 NE, Wash.	100	229	360	555	621	744	667	686	456	262	147	113	
Rapid City, S. Dak.	180	266	438	533	576	520	642	571	443	346	219	161	408
Richland, Wash.	88	205	340	427	527	660	588	613	396	234	134	100	359
Riverside, Calif.	256	389	528	627	602	672	670	610	551	382	300	237	485
St. Cloud, Minn.	181	270	377	479	563	512	556	515	396	264	148	140	367
San Antonio, Tex.	335	307	397	479	548	654	593	550	474	471	301	293	450
Santa Maria, Calif.	284	390	518	610	599	661	732	639	531	416	314	206	492
Sault Ste. Marie, Mich.	130	212	356	418	562	602	615	499	352	211	98	114	347
Sayville, N. Y.	212	261	360	392	619	544	570	486	409	279	201	169	375
Schenectady, N. Y.	156	189	257	329	477	438	526	402	361	188	124	119	297
Seabrook, N. J.	180	234	323	367	534	449	515	440	347	285	217	164	338
Seattle, Wash. (U. of W.)	55	127	220	380	395	442	390	396	255	129	66	54	242
Seattle, Wash. (WBAS)	64	139	258	429	468	514	447	478	312	161	89	69	286
Spokane, Wash.	158	263	391	458	540	672	635	639	400	193	98	75	377
State College, Pa.	141	183	301	308	510	473	530	401	362	226	135	107	306
Stillwater, Okla.	202	310	386	490	492	590	649	563	379	--	-	220	-
Swan Island, W. I.	429	439	---	578	655	643	487	562	514	-	-	--	
Tallahassee, Fla.	259	343	424	505	555	---	--	-	426	--	-		
Tampa, Fla.	348	399	468	615	632	620	505	549	481	445	392	275	477
Toronto, Ontario	143	193	292	411	535	573	605	442	384	199	116	103	333
Tucson, Ariz.	---	---	---	--	--	---	587	567	576	471	361	301	--
Upton, N. Y.	209	249	364	439	597	534	564	484	423		180	177	---
Wake Island, Pacific Area	410	510	520	620	656	---	668	593	575	558	545	483	---
Washington, D.C., (Silver Hill)	---	223	355	382	551	539	511	428	353	322	232	175	---
Winnipeg, Manitoba	138	244	408	400	479	534	603	534	338	240	133	108	347

1/ Value for January 1954 should be 5

2/ Sun below horizon before January 24 and after November 17.

Note: Langley is the unit used to denote one gram calorie per square centimeter.

ATMOSPHERIC OZONE

Total atmospheric ozone in centimeters as measured with Dobson ozone spectrophotometers.

YEAR 1955

	Flagstaff, Ariz.		Flagstaff, Ariz.		Flagstaff, Ariz.		Flagstaff, Ariz.		Flagstaff, Ariz.		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)
1954 Aug.		Sept.		Oct.		Nov.		Dec.		1955 Jan.					Feb.					Mar.					Apr.					May				
1	----		----		0.18		0.18		----		0.23	----	0.18	----		----	0.19	0.19	----		0.35	0.19	0.18	0.24		0.26	0.20	----	0.28		0.20	----	0.21	----
2	----		----		----		----		----		.22	----	----	----		0.23	----	.18	----		.31	.21	.17	.27		----	.24	0.21	----		.20	----	.22	0.27
3	----		0.20		----		.20		----		.22	----	----	0.21		----	----	----	.25		.28	.19	.16	.23		----	----	.18	----		----	0.22	.21	.27
4	----		.20		.18		.20		0.19		.25	----	----	.20		----	.24	----	.24		----	.21	.16	.22		----	----	.20	.28		----	----	.21	.24
5	----		----		.18		.19		----		.26	.20	----	----		----	.23	----	----		----	----	----	----		----	----	.20	.27		.24	.21	.20	.24
6	----		----		.19		.19		----		.23	.20	----	.19		.26	----	.19	----		.33	----	----	----		.28	.24	----	----		.24	.20	.22	.25
7	----		.20		----		----		.20		.25	----	----	----		.26	.20	.22	.19		.41	.18	.20	.30		.25	.22	----	.32		.25	----	.21	----
8	----		.19		.19		.19		----		----	----	----	----		----	.19	.19	.22		.25	.19	.18	.32		.24	----	----	.30		.23	----	.21	----
9	----		.20		.19		.19		----		----	----	----	----		.26	.19	----	.24		.25	.20	.18	.23		----	.24	----	----		.25	----	----	.24
10	----		.20		.18		.19		----		.25	----	----	----		.34	.20	.18	.21		.27	----	.17	.24		.25	----	---	----		.26	----	----	.26
11	----		----		.18		----		.21		----	----	----	.21		.32	.19	.20	----		----	----	.17	.23		.26	.27	.21	.24		.25	.22	----	.25
12	----		----		.18		----		.19		.30	.21	.18	----		----	----	.20	----		.27	.20	.18	----		.28	.24	.22	.27		.26	.22	----	.25
13	----		.19		.18		----		----		.22	----	----	.19		.24	----	.20	----		----	----	.19	----		.27	----	----	----		.23	.23	.22	---
14	----		.18		.18		----		----		----	----	----	.26		.26	.18	.20	.29		.29	.22	.18	.25		.27	----	.21	----		----	----	.22	----
15	----		.19		.18		.19		----		.25	.20	----	----		.28	.19	.19	.29		.35	----	----	----		.28	.21	.19	.26		.24	----	.22	----
16	----		.19		.18		----		.22		.25	----	----	----		.23	----	.21	.25		.28	.21	----	.22		----	----	.19	----		.26	.25	----	.27
17	----		.19		----		.19		.22		.27	.20	----	.21		----	----	.20	.26		.32	.20	----	.22		.26	----	.19	----		.24	----	.23	.28
18	----		.19		.19		.20		.21		.28	.20	----	.21		.27	----	----	.25		.27	.22	----	.22		----	.23	.20	----		.24	.27	.24	.28
19	----		----		.18		.18		----		.28	----	----	.22		----	----	----	----		----	----	----	----		----	.22	----	.24		.22	.26	--	.28
20	----		.19		.18		.19		.20		.29	----	----	.24		----	----	.19	----		.30	----	----	----		----	.24	.22	----		.21	.23	.29	.31
21	----		.20		.18		----		.20		.26	.25	.20	.17		.28	.26	----	.21		.32	.24	----	----		.27	----	.22	.22		.25	----	----	----
22	----		.21		.18		.18		.19		----	----	.21	----		.24	.25	.22	----		.33	.23	.21	.20		.28	----	.22	----		.27	----	.23	----
23	----		.20		----		----		.20		----	----	.28	----		.28	.22	.19	.21		.33	.24	.21	.26		----	.22	.22	----		.26	.23	.22	.25
24	0.20		.21		----		----		.20		----	----	.22	.25		.25	----	.19	.18		.37	.24	.22	.26		.26	----	.21	----		----	.22	.21	.26
25	.20		.20		.20		----		----		.26	----	.19	.26		----	----	----	.24		.35	----	----	----		----	.22	.22	----		----	----	.22	.24
26	.20		----		.20		.18		----		.27	.20	.19	.24		.29	----	----	----		.31	----	----	----		.24	.21	----	----		----	.22	.22	.25
27	.20		.20		.19		.18		----		.29	.19	.20	.25		.30	----	----	----		.34	----	.25	----		----	.22	----	.25		----	.21	.20	.25
28	.20		.20		.19		----		.21		.29	.19	.21	.23		.35	.22	.17	.24		.30	----	.30	.34		.30	.22	.22	.26		----	.21	.20	----
29	----		.20		.18		.19		----		----	.18	.20	----		----	----	----	----		.26	.21	.23	.37		.25	----	.22	----		.26	----	.21	----
30	.20		.19		.19		----		.22		.23	----	.18	----		----	----	----	----		.28	.24	.22	.32		.23	.21	.21	----		.22	.20	.22	----
31	.20		----		----		----		----		.21	----	----	.26		----	----	----	----		.30	.22	----	.30		----	----	----	----		.20	----	.21	.29
Monthly Mean	.20		.20		.18		.19		.20		.25	.20	.20	.22		.27	.21	.20	.24		.31	.21	.20	.26		.26	.22	.21	.27		.24	.22	.22	.26

ATMOSPHERIC OZONE

Total atmospheric ozone in centimeters as measured with Dobson ozone spectrophotometers--Continued YEAR 1955

	Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Fort Worth, Tex.	Washington, D. C. (WBCO)		Bismarck, N. Dak.	Flagstaff, Ariz.	Washington, D. C. (WBCO)
June					July					Aug.					Sept.					Oct.					Nov.					Dec.			
1----------	0.25	0.24	0.21	0.31		0.29	0.21	0.20	0.24		0.24	0.21	0.21	0.22		0.22	0.19	0.20	0.22		0.22	0.19	----	---		0.24	0.18	----	0.20		0.23	---	0.22
2----------	.27	.27	.22	.28		.28	.20	----	----		.24	----	.20	.24		.22	.20	.21	----		.21	----	0.20	----		.22	.18	----	.21		.25	----	----
3----------	.28	.24	.21	.28		.25	.20	.20	----		.24	.22	.21	.25		.24	.20	.20	----		.21	----	----	0.24		----	.19	0.20	.20		----	----	----
4----------	.28	----	.22	----		.23	.20	----	----		.24	----	----	.24		.21	----	.21	----		.18	.20	.18	.23		.20	.19	.19	.26		.22	----	----
5----------	.30	----	----	----		.25	.20	.20	.27		.24	.22	.20	.23		.21	.20	.22	----		.22	.19	.17	.22		----	.18	.20	----		.23	.20	.20
6----------	.31	.20	.24	.26		.25	.20	.20	.26		.24	----	.21	----		.20	.20	.25	.24		.22	.20	.18	.21		.20	----	----	----		.21	----	.24
7----------	----	.21	.23	.27		.25	.20	.19	.24		.23	----	.21	----		.21	----	.25	.25		.20	.20	.17	.22		.21	----	.20	----		.19	.19	.22
8----------	.32	.20	.24	----		.28	.20	.22	.22		.24	----	.20	----		.22	.21	.20	.24		.20	----	.19	----		.19	----	.19	.24		.21	.19	----
9----------	----	----	----	----		----	.20	.22	----		.23	.21	.21	----		.23	.21	.20	----		.20	----	.18	----		----	----	.21	.24		.22	----	----
10---------	----	----	.24	.23		----	.20	----	----		.23	.21	----	.22		----	.21	.20	----		.20	.19	.17	.20		.20	.17	.18	.21		.23	.18	----
11---------	----	.21	.24	----		.26	.21	.23	.24		.23	.21	----	.22		----	----	.20	----		----	.18	----	.21		.21	.18	*	----		.20	----	----
12---------	.27	---	.22	----		.25	.20	.24	.28		.24	----	.23	----		.24	.20	.20	.23		.21	.18	.19	.20		----	----	----	----		----	----	----
13---------	.28	----	.21	.22		.28	----	.25	.26		.24	----	.23	----		.23	.20	.19	.23		.20	.18	.19	.21		.21	----	----	----		.19	.18	----
14---------	.27	.22	.21	.27		.25	----	.21	.25		----	----	.23	----		.22	.20	.19	.24		.20	.19	.18	---		----	----	----	.20		.18	.17	----
15---------	.26	.21	.21	.28		.26	----	.21	.25		.23	----	.22	.22		.22	.20	.18	.23		.21	.19	.19	----		.20	---	----	.18		.20	----	----
16---------	.24	.22	.22	.26		.27	----	----	----		.23	----	.21	.21		.23	.19	.18	.26		.20	----	.19	----		.22	----	----	.19		.25	.18	----
17---------	.25	.21	----	.30		.24	.21	----	----		.22	----	.22	----		.23	.19	.19	----		.20	.20	.20	.25		.20	----	----	.20		----	----	----
18---------	.27	.21	.22	----		.26	.21	.22	.25		.23	.21	----	----		.22	----	.19	----		.19	.20	.19	----		.23	.18	----	.20		.24	----	----
19---------	.28	.21	----	----		.23	.21	.22	.24		----	.22	.21	.23		.22	.19	.19	----		19	---	.19	----		----	.17	----	----		----	----	----
20---------	.25	.21	.23	.25		.24	.21	.22	.25		.23	----	.21	----		----	.20	.19	.22		.20	.20	.20	----		.19	----	----	----		.20	----	----
21---------	.26	.20	.21	.28		.24	.21	.24	.25		.24	----	.20	----		.22	.19	.19	.22		.19	----	.18	----		.18	----	----	.20		----	----	----
22---------	.27	.20	.23	.27		.24	.21	.23	.27		.22	.21	.20	.26		.22	.19	.18	----		.19	.19	.19	----		.20	.19	----	.22		----	----	----
23---------	.28	---	.23	.28		.24	.21	.22	----		.24	.21	.20	.22		.22	.19	----	----		.22	----	.18	----		.21	.20	----	----		----	----	----
24---------	.28	.22	.21	.28		.23	----	.22	----		.23	---	.20	.23		.22	----	----	----		.19	.18	----	.22		----	----	----	----		----	----	----
25---------	.26	----	.21	----		.24	----	.21	.28		.24	----	.21	.23		----	----	.19	----		.17	.19	.19	.24		.21	----	----	----		.18	---	----
26---------	---	.21	.21	----		----	.21	.20	.25		----	.21	.20	.25		----	.19	.20	.24		.17	.18	.18	.23		.24	.20	----	----		.19	----	----
27---------	.26	.22	.21	.28		----	.21	.21	.24		.23	----	.20	----		.21	.19	.18	.22		----	.17	.19	.21		----	----	----	----		.21	----	----
28---------	.28	.21	.20	.28		----	.21	.21	.25		.23	.20	----	----		.21	.19	.20	.23		.21	.17	.19	.21		.22	.20	---	.22		.20	----	----
29---------	.27	.21	.20	.22		.24	----	.21	----		.23	.19	.20	.24		.21	.19	.18	.22		.22	.18	.18	----		.21	----	----	.27		.22	----	---
30---------	.25	.21	.20	.24		.24	.20	.21	----		.21	.19	----	.23		.22	.19	.18	----		.21	----	.20	----		----	---	----	.25		.22	----	----
31---------	----	----	----	----		.24	---	.21	----		.21	.20	.21	.22		----	----	----	----		.18	.17	.18	.22		----	----	---	----		.20	----	----
Monthly Mean------	.27	.22	.22	.27		.25	.20	.22	.25		.23	.21	.21	.23		.22	.20	.20	.23		.20	.19	.19	.22		.21	.19	.20	.22		.21	.19	.22

* Inoperative remainder of year

ILLUMINATION DATA

Table 34*.-Daily illumination on a horizontal surface, tabulated in hundreds of foot-candle hours. YEAR 1955

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
Washington, D. C. (WBCO)																																
Jan	180	244	268	244	94	106	237	196	57	132	166	110	---	252	151	---	274	275	167	282	118	160	98	193	163	274	208	204	241	121	248	---
Feb	70	50	327	334	---	---	315	252	308	334	32	348	364	245	290	287	151	(344)	286	277	203	71	245	90	(379)	215	---	219				---
Mar	279	459	349	260	71	31	423	449	427	419	168	299	471	474	---	267	452	294	305	360	51	---	566	429	326	186	567	557	378	674	---	---
Apr	---	452	262	610	552	151	296	610	623	629	363	400	128	134	398	656	230	207	313	274	421	632	535	(286)	109	76	253	702	---	467		---
May	394	(676)	567	577	---	--		--	--	---	---	- -	150	212	622	723	639	741	652	529	640	331	490	678	522	760	783	378	660	484	425	--
June	611	525	539	761	768	682	---	56	--	456	196	680	600	482	752	781	724	636	172	776	556	599	735	717	250	668	686	773	761	611		---
July	579	720	798	611	553	472	550	256	349	292	---	578	---	--	731	653	648	683	517	688	576	644	524	376	635	658	625	574	183	300	424	---
Aug	586	626	585	605	362	509	388	142	212	339	253	71	206	350	593	360	212	138	---	---	---	---	---	(681)	(452)	(724)	(704)	697	512	644	369	---
Sept	218	252	234	557	529	603	651	700	232	---	---	---	---	662	739	506	153	344	183	602	675	111	60	104	---	---	464	559	549	99		---
Oct	---	---	---	(464)	(398)	(410)	488	149	547	540	526	496	---	88	398	342	427	--	348	467	387	463	404	243	410	388	428	348	145	246	317	---
Nov	---	(329)	112	350	373	350	53	(290)	337	(102)	---	---	---	232	168	145	322	311	25	---	---	---	156	263	60	260	227	222	---	248		---
Dec	241	37	215	116	228	215	112	200	44	247	---	---	218	168	156	229	131	67	163	231	(210)	101	94	114	214	185	221	191	64	95	---	---

The foot-candle hour is the average illumination for one hour, in foot-candles. Foot-candle hours for a day are obtained by summing the foot-candle hours for the individual hours of that day. The illumination values are compiled from continuous records of the illumination output of a Foster illuminometer. For a description of this instrument see "A recording Daylight Illuminometer", by Norman B. Foster, in Illuminating Engineering, Vol. XLVI No. 2, pages 59 to 62.

* Data not available for publication in monthly issues.

NWRC, Asheville, N. C. --- 6/8/56 --- 2500

Chart I. Departure from Normal of Annual Average Temperature (°F.) at Surface, 1955.

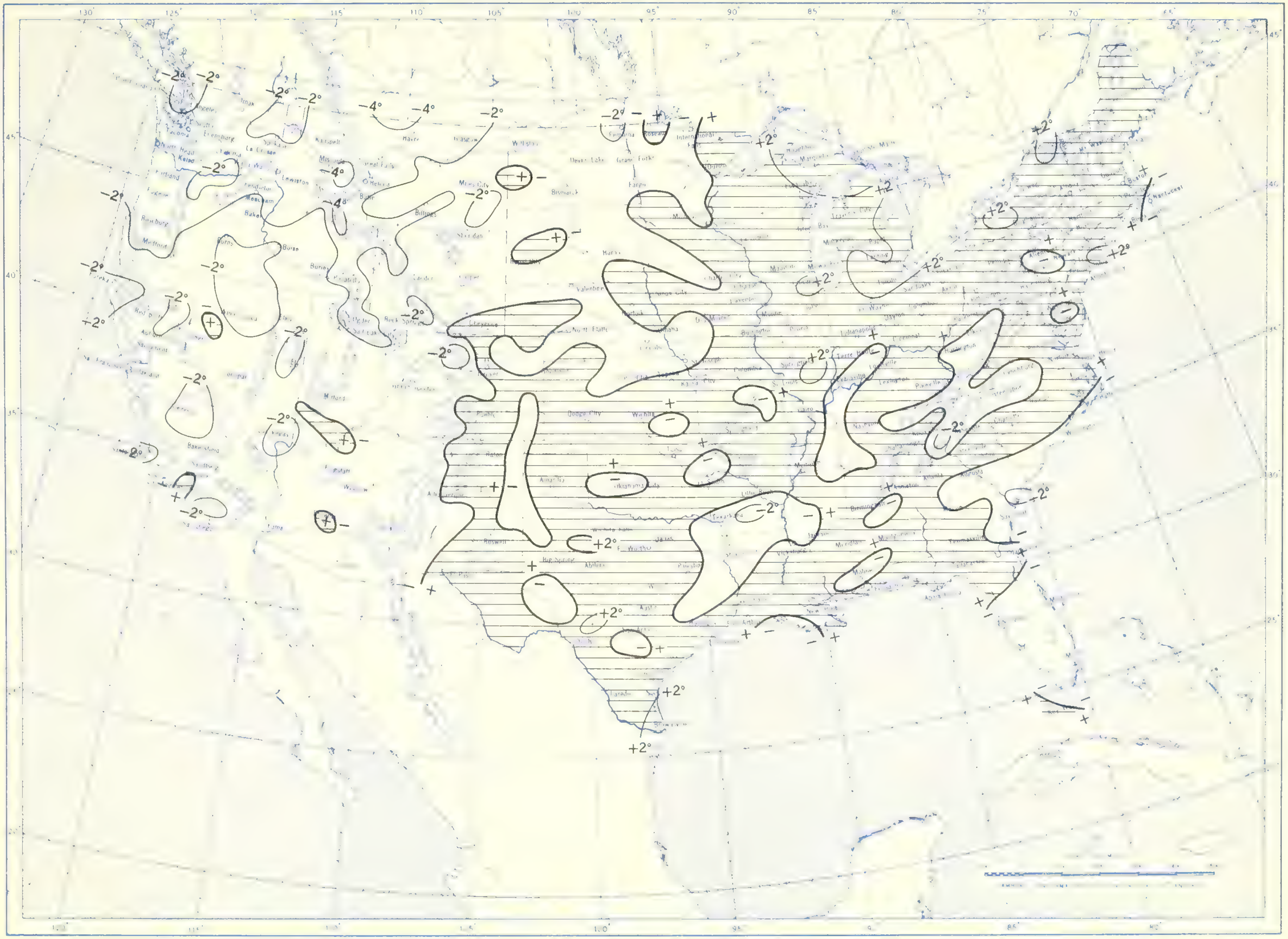


Chart II. Percentage of Normal Annual Precipitation, 1955.

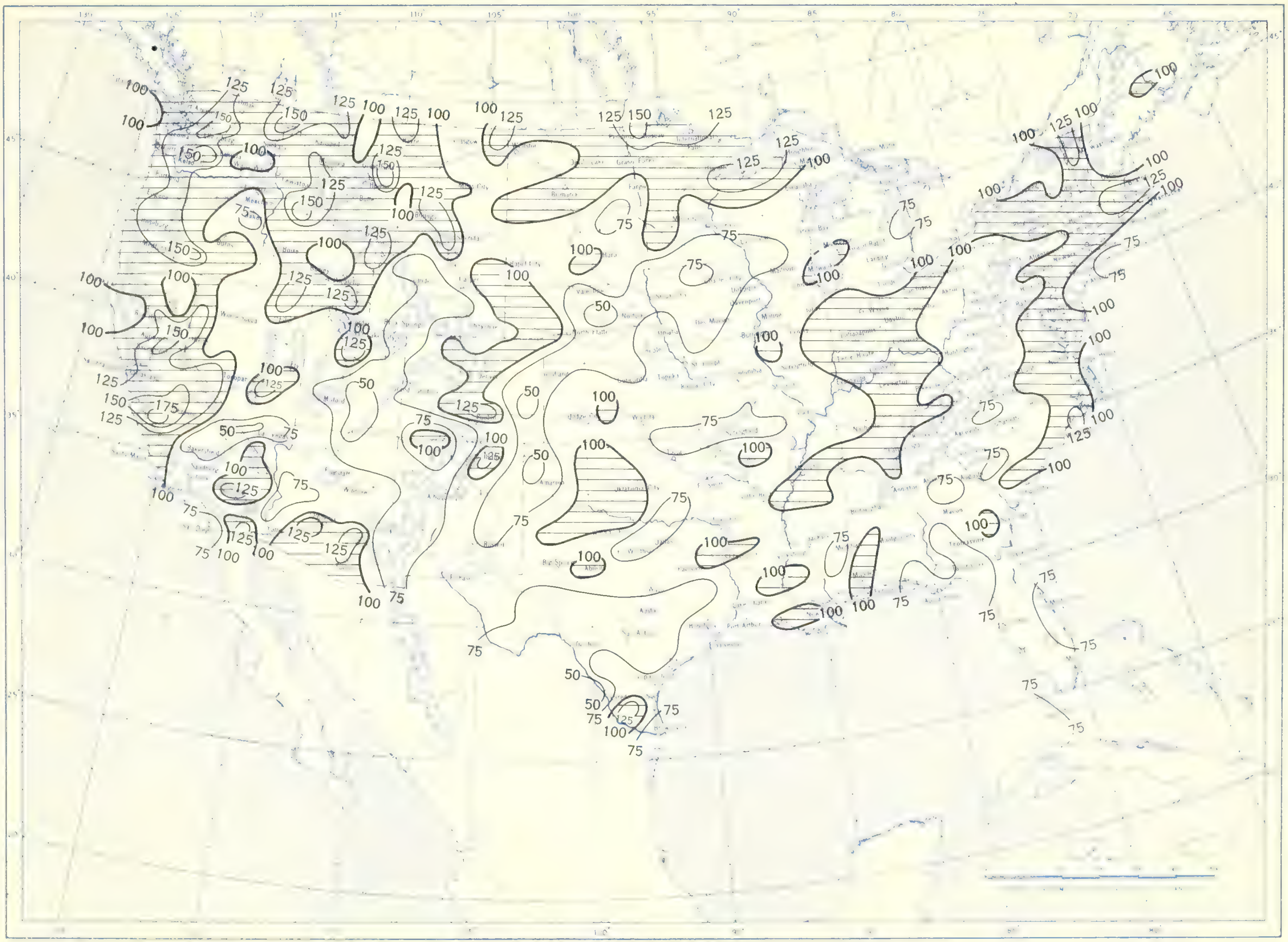


Chart III. Tracks of Tornadoes, 1955.

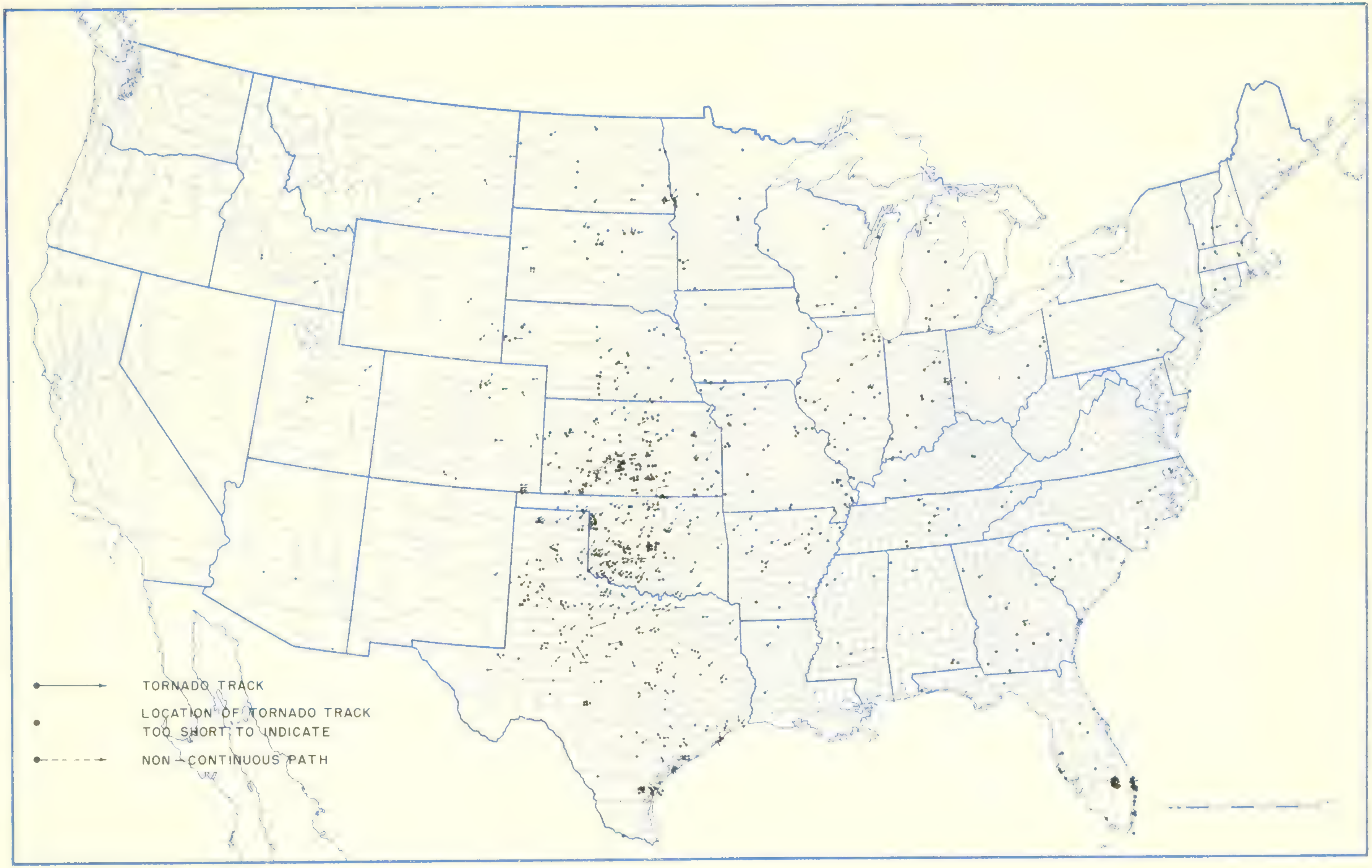
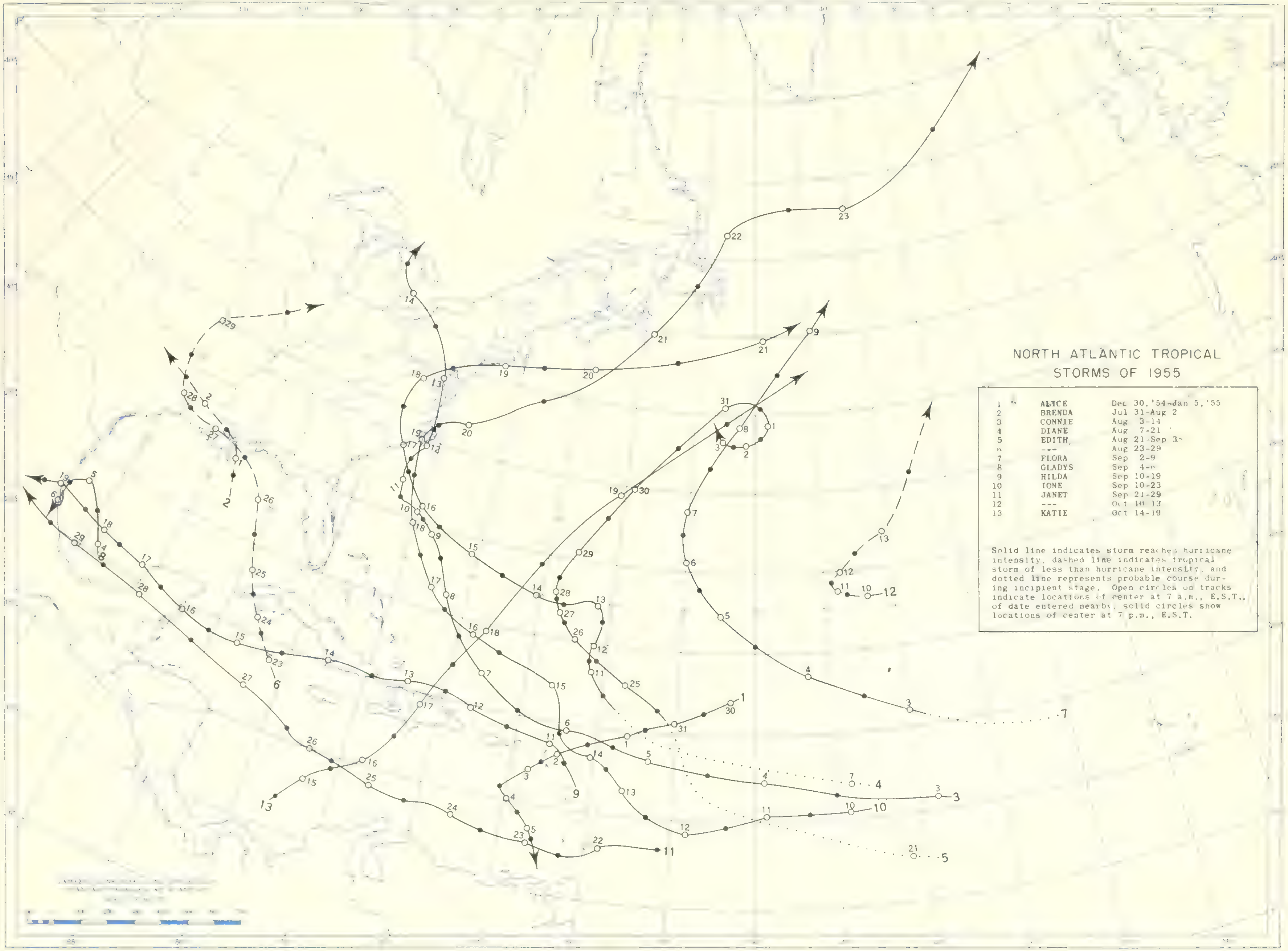


Chart IV. Tracks of North Atlantic Hurricanes and Tropical Disturbances, 1955.



NORTH ATLANTIC TROPICAL STORMS OF 1955

1	ALICE	Dec 30,'54-Jan 5,'55
2	BRENDA	Jul 31-Aug 2
3	CONNIE	Aug 3-14
4	DIANE	Aug 7-21
5	EDITH	Aug 21-Sep 3
6	---	Aug 23-29
7	FLORA	Sep 2-9
8	GLADYS	Sep 4-6
9	HILDA	Sep 10-19
10	IONE	Sep 10-23
11	JANET	Sep 21-29
12	---	Oct 10-13
13	KATIE	Oct 14-19

Solid line indicates storm reached hurricane intensity, dashed line indicates tropical storm of less than hurricane intensity, and dotted line represents probable course during incipient stage. Open circles on tracks indicate locations of center at 7 a.m., E.S.T., of date entered nearby, solid circles show locations of center at 7 p.m., E.S.T.